10/535566
Rec'd PCT/PTO 19 MAY 2005

FIG.1

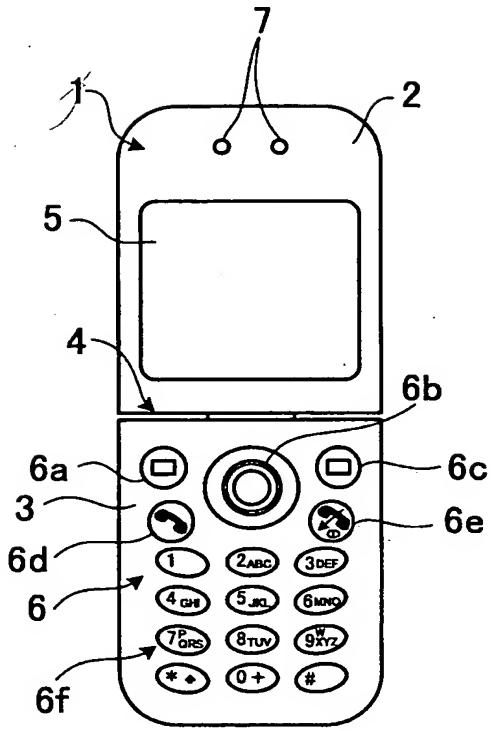
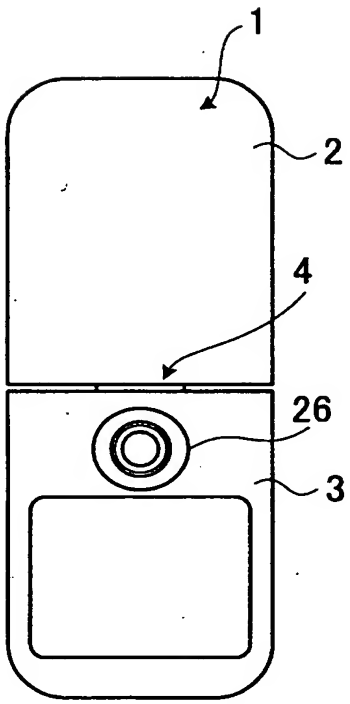


FIG.2

(a)



(b)

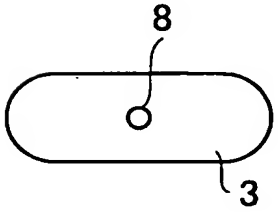


FIG.3

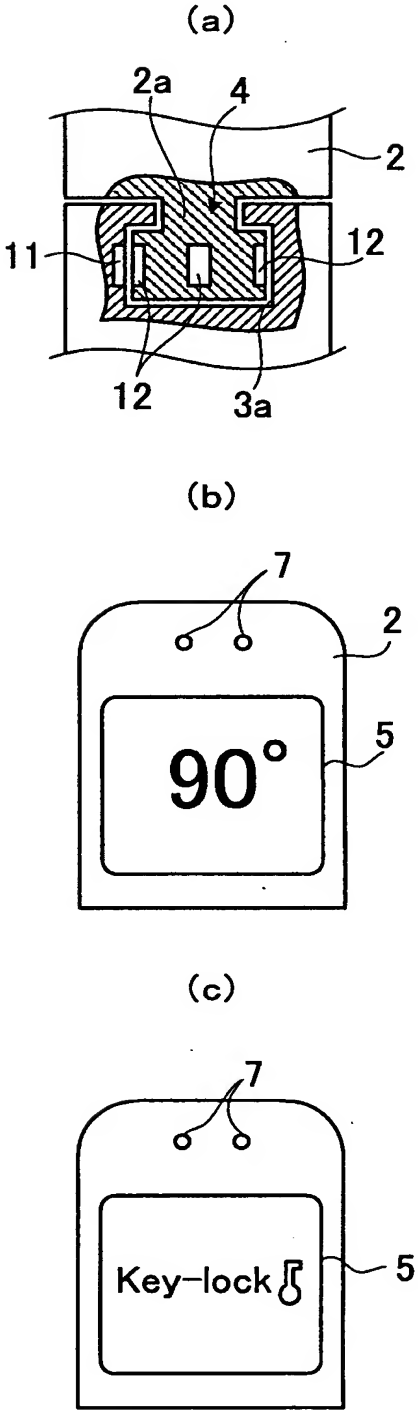


FIG.4

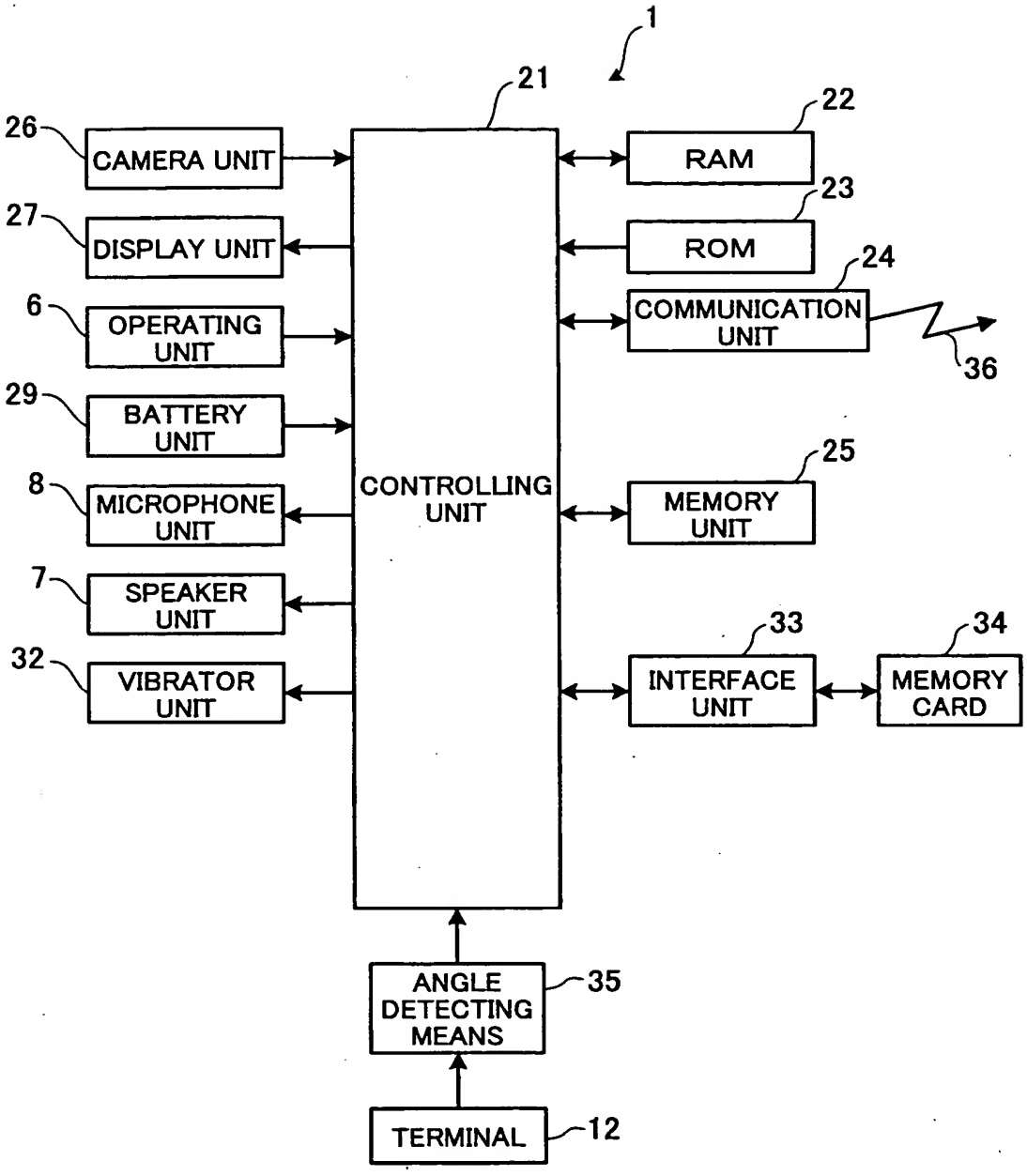

1
21
22
23
24
25
26
27
6
29
8
7
32
33
34
35
36
12
CAMERA UNIT
DISPLAY UNIT
OPERATING UNIT
BATTERY UNIT
MICROPHONE UNIT
SPEAKER UNIT
VIBRATOR UNIT
CONTROLLING UNIT
RAM
ROM
COMMUNICATION UNIT
MEMORY UNIT
INTERFACE UNIT
MEMORY CARD
ANGLE DETECTING MEANS
TERMINAL

FIG.5

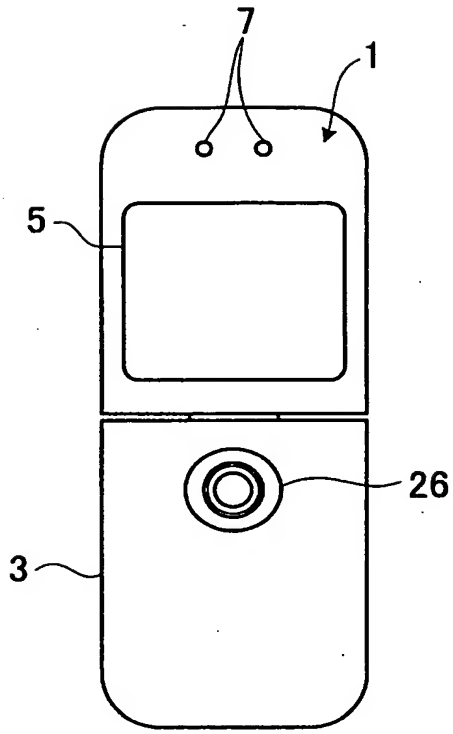


FIG.6

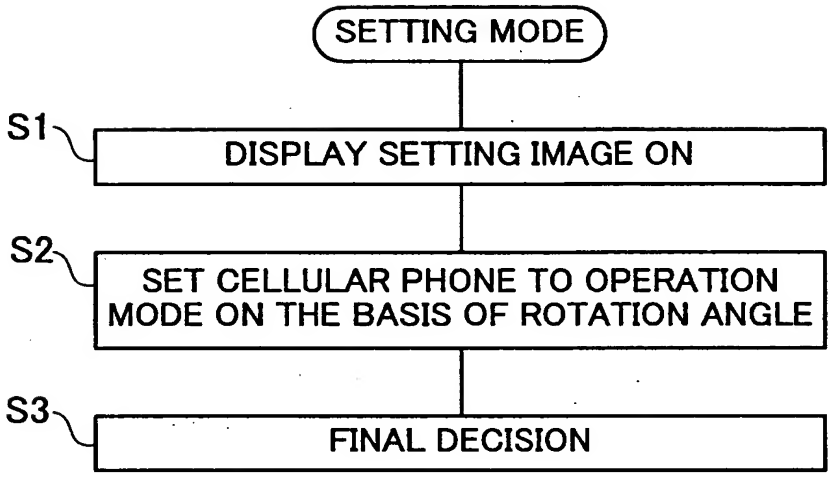
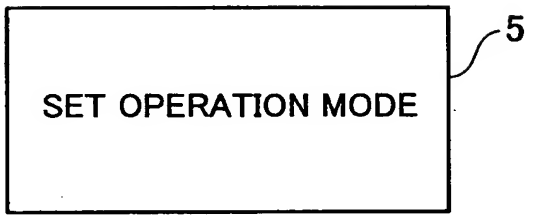
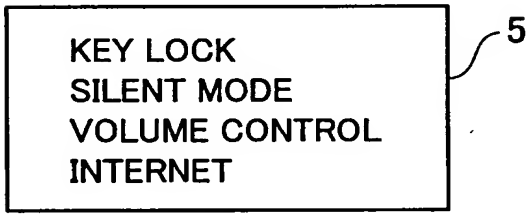

SETTING MODE
S1
DISPLAY SETTING IMAGE ON
S2
SET CELLULAR PHONE TO OPERATION MODE ON THE BASIS OF ROTATION ANGLE
S3
FINAL DECISION

FIG.7

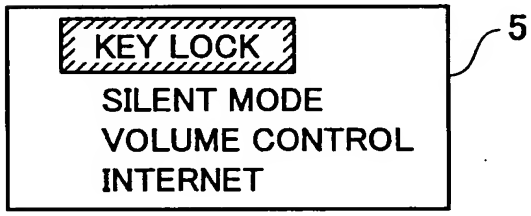
(a)


SET OPERATION MODE
5

(b)


KEY LOCK
SILENT MODE
VOLUME CONTROL
INTERNET
5

(c)


KEY LOCK
SILENT MODE
VOLUME CONTROL
INTERNET
5

(d)

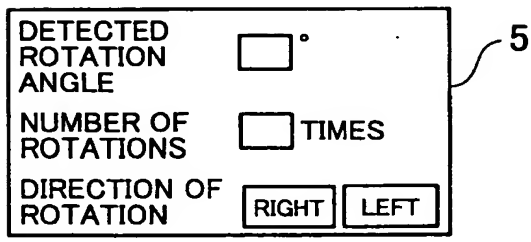

DETECTED ROTATION ANGLE
°
NUMBER OF ROTATIONS
TIMES
DIRECTION OF ROTATION
RIGHT
LEFT
5

FIG.8

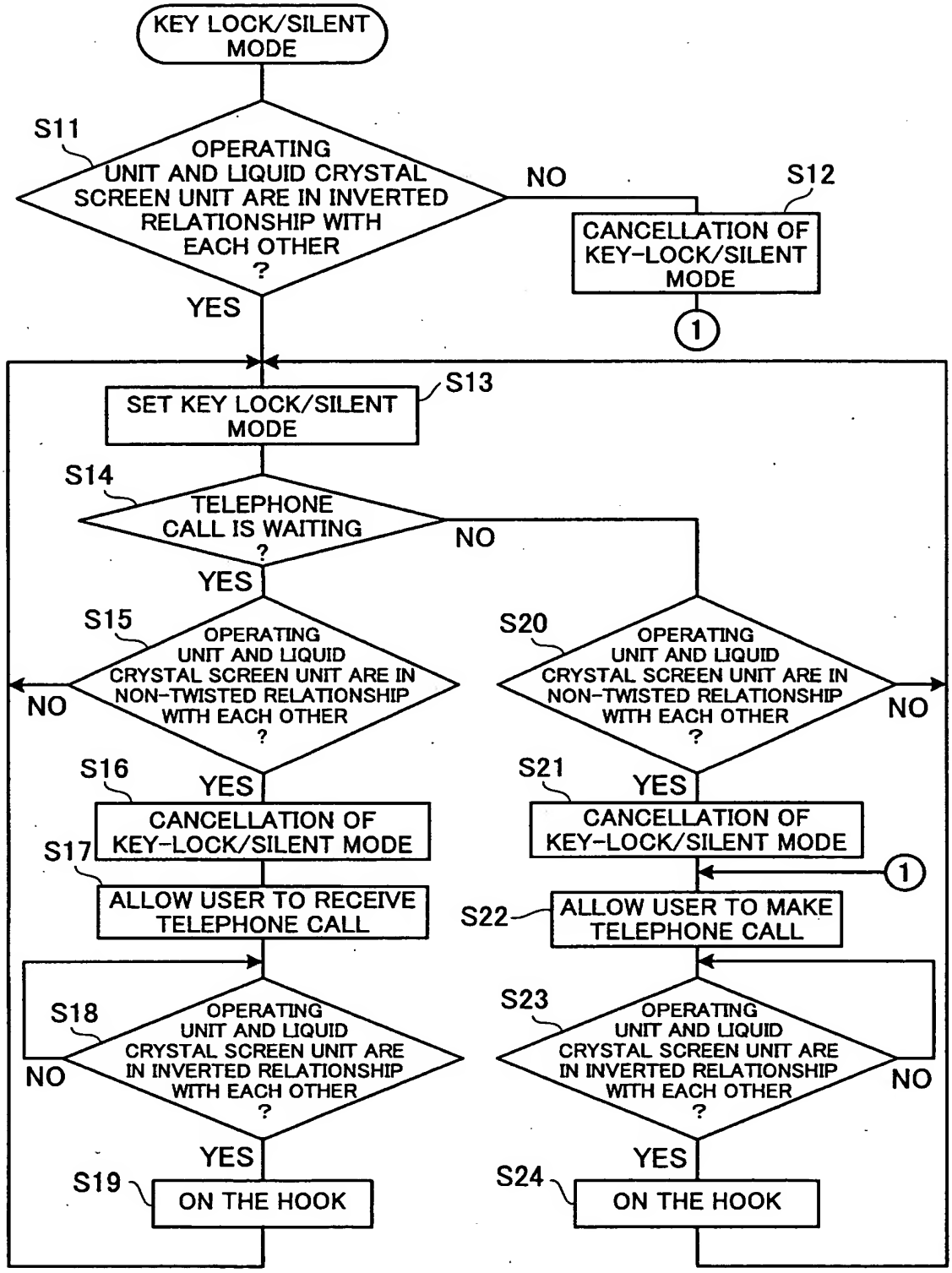

KEY LOCK/SILENT MODE
S11
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
S12
CANCELLATION OF KEY-LOCK/SILENT MODE
1
YES
S13
SET KEY LOCK/SILENT MODE
S14
TELEPHONE CALL IS WAITING ?
NO
YES
S15
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
S16
YES
CANCELLATION OF KEY-LOCK/SILENT MODE
S17
ALLOW USER TO RECEIVE TELEPHONE CALL
S18
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S19
ON THE HOOK
S20
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
S21
YES
CANCELLATION OF KEY-LOCK/SILENT MODE
1
S22
ALLOW USER TO MAKE TELEPHONE CALL
S23
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S24
ON THE HOOK

FIG.9

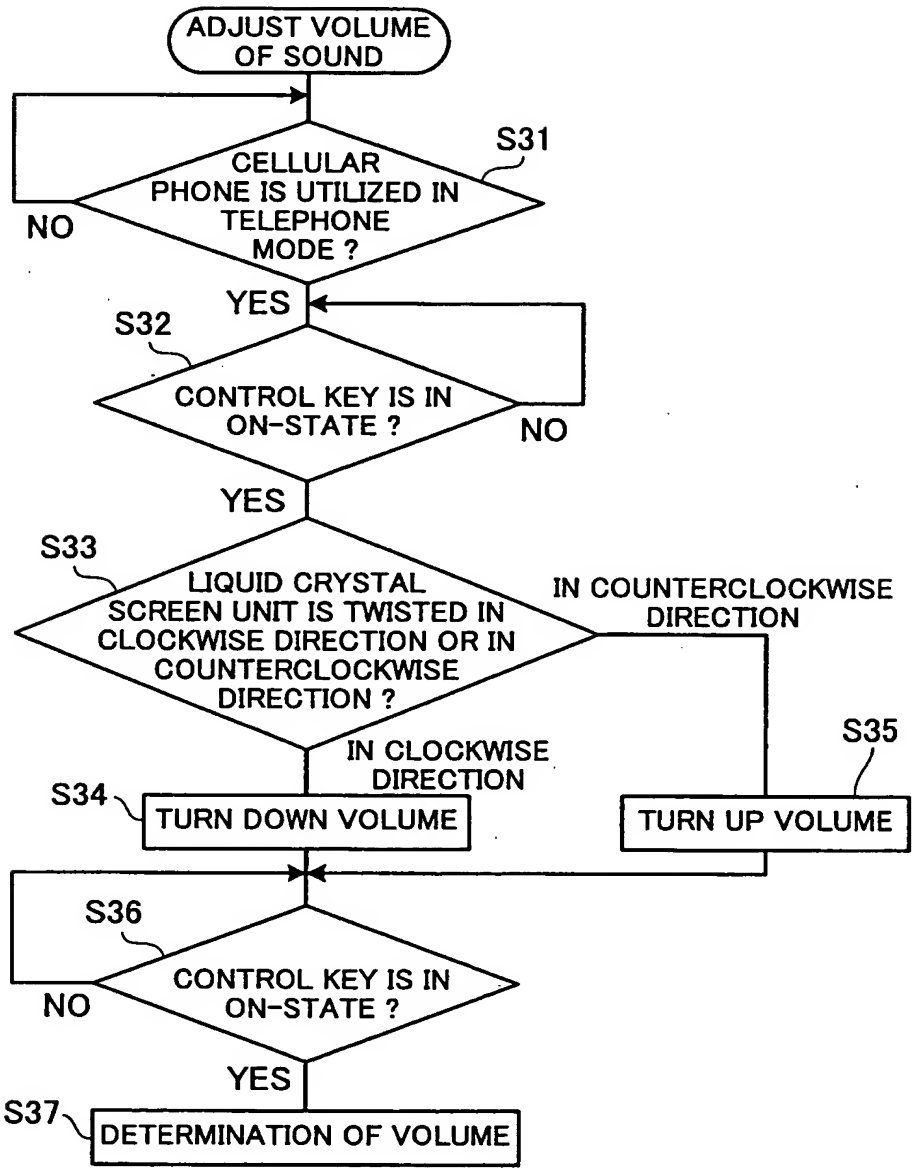

ADJUST VOLUME OF SOUND
S31
CELLULAR PHONE IS UTILIZED IN TELEPHONE MODE ?
NO
YES
S32
CONTROL KEY IS IN ON-STATE ?
NO
YES
S33
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR IN COUNTERCLOCKWISE DIRECTION ?
IN COUNTERCLOCKWISE DIRECTION
S35
IN CLOCKWISE DIRECTION
S34
TURN DOWN VOLUME
TURN UP VOLUME
S36
CONTROL KEY IS IN ON-STATE ?
NO
YES
S37
DETERMINATION OF VOLUME

FIG.10

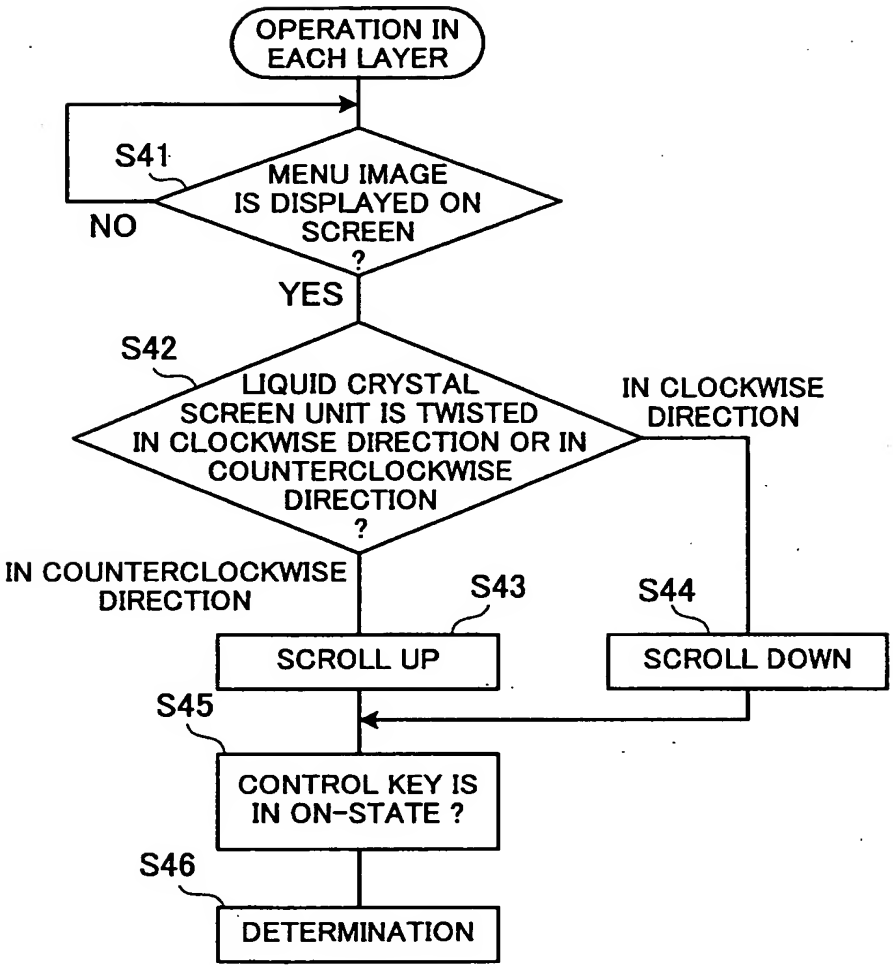

OPERATION IN EACH LAYER
S41
MENU IMAGE IS DISPLAYED ON SCREEN ?
NO
YES
S42
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR IN COUNTERCLOCKWISE DIRECTION ?
IN CLOCKWISE DIRECTION
IN COUNTERCLOCKWISE DIRECTION
S43
S44
SCROLL UP
SCROLL DOWN
S45
CONTROL KEY IS IN ON-STATE ?
S46
DETERMINATION

FIG.11

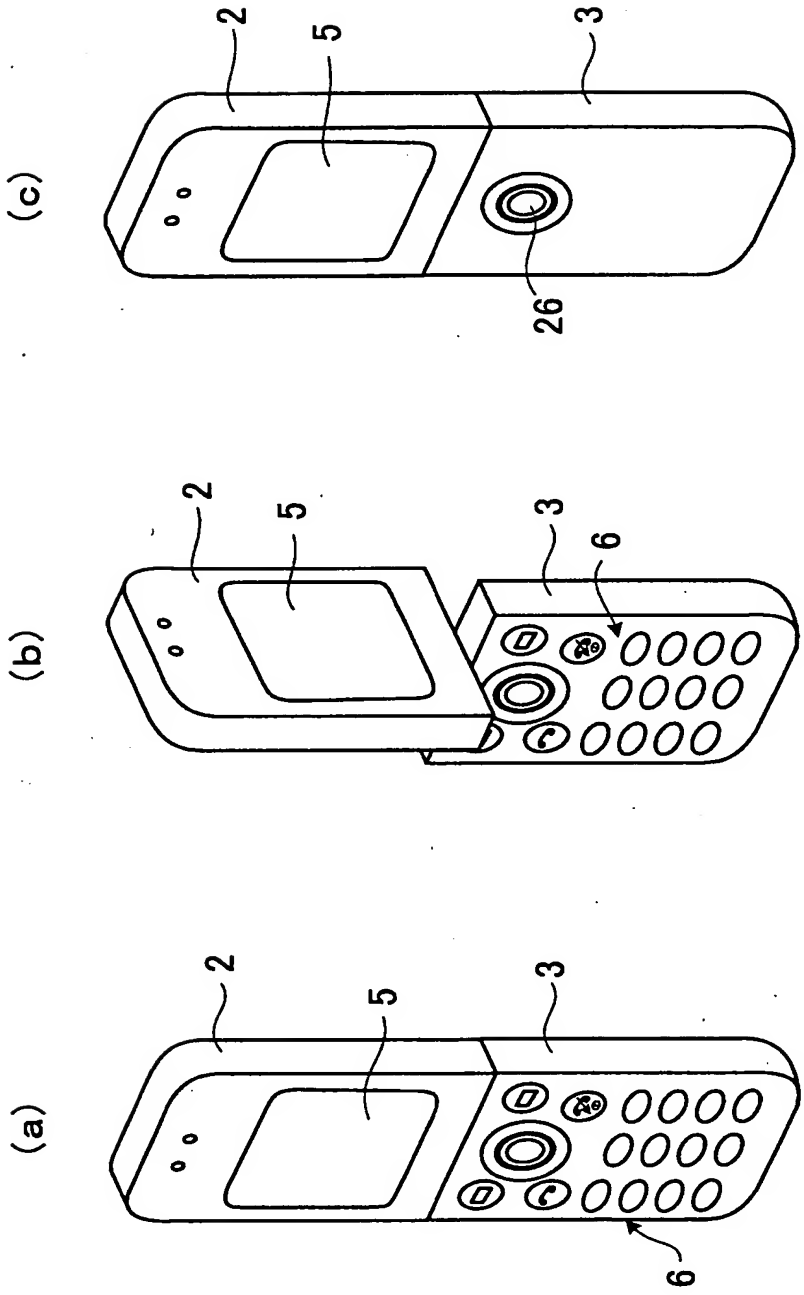


FIG.12

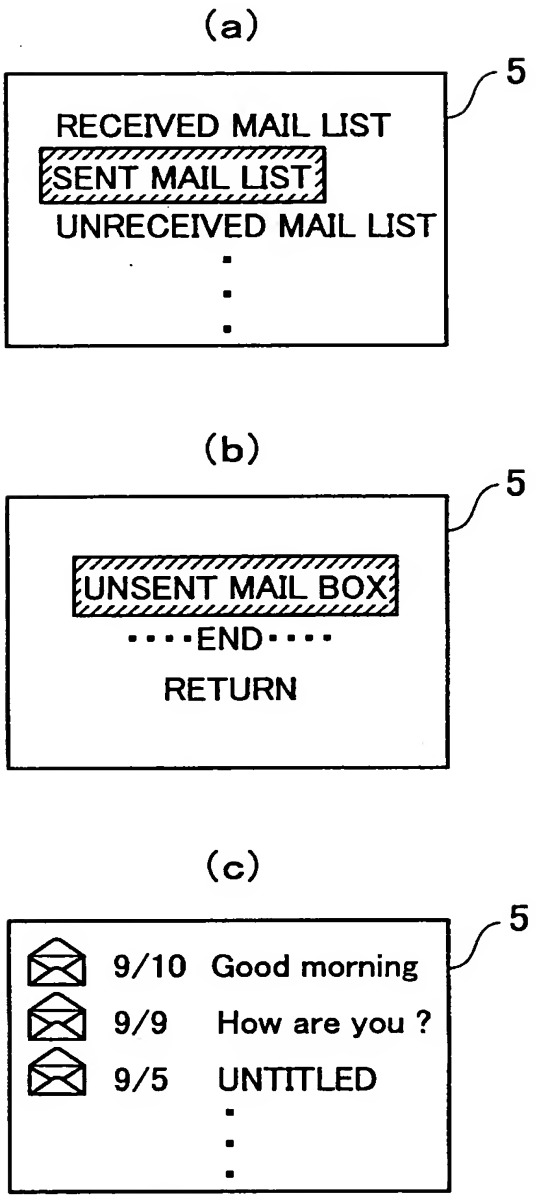

(a)
5
RECEIVED MAIL LIST
SENT MAIL LIST
UNRECEIVED MAIL LIST
(b)
5
UNSENT MAIL BOX
••••END••••
RETURN
(c)
5
9/10 Good morning
9/9 How are you ?
9/5 UNTITLED

FIG.13

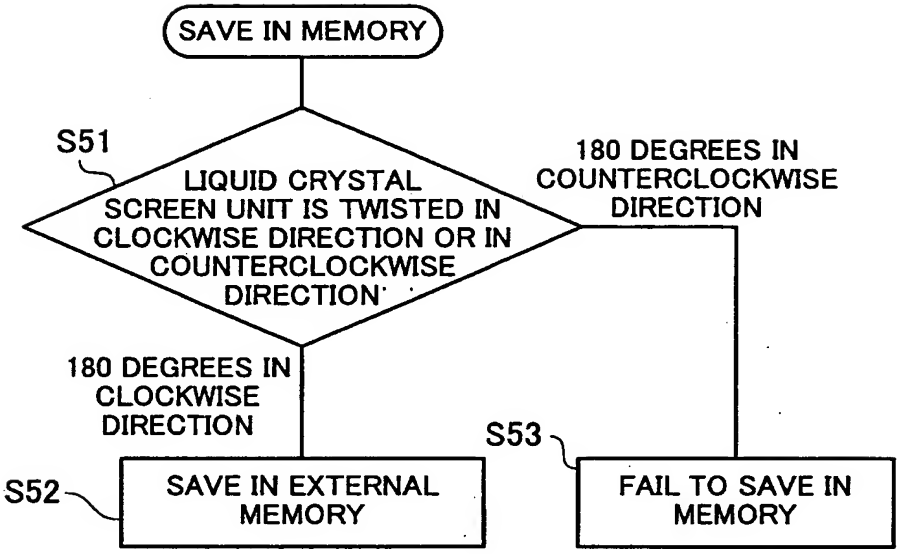

SAVE IN MEMORY
S51
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR IN COUNTERCLOCKWISE DIRECTION
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
180 DEGREES IN CLOCKWISE DIRECTION
S52
SAVE IN EXTERNAL MEMORY
S53
FAIL TO SAVE IN MEMORY

FIG.14

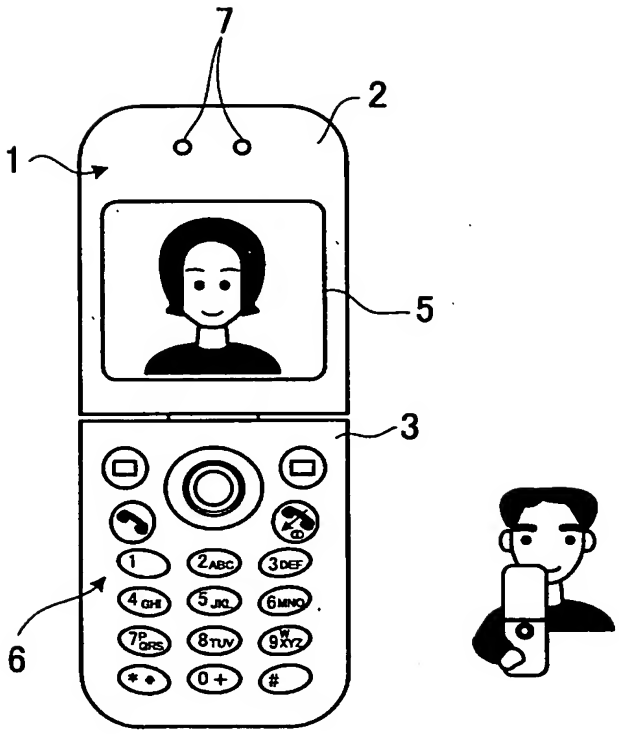


FIG.15

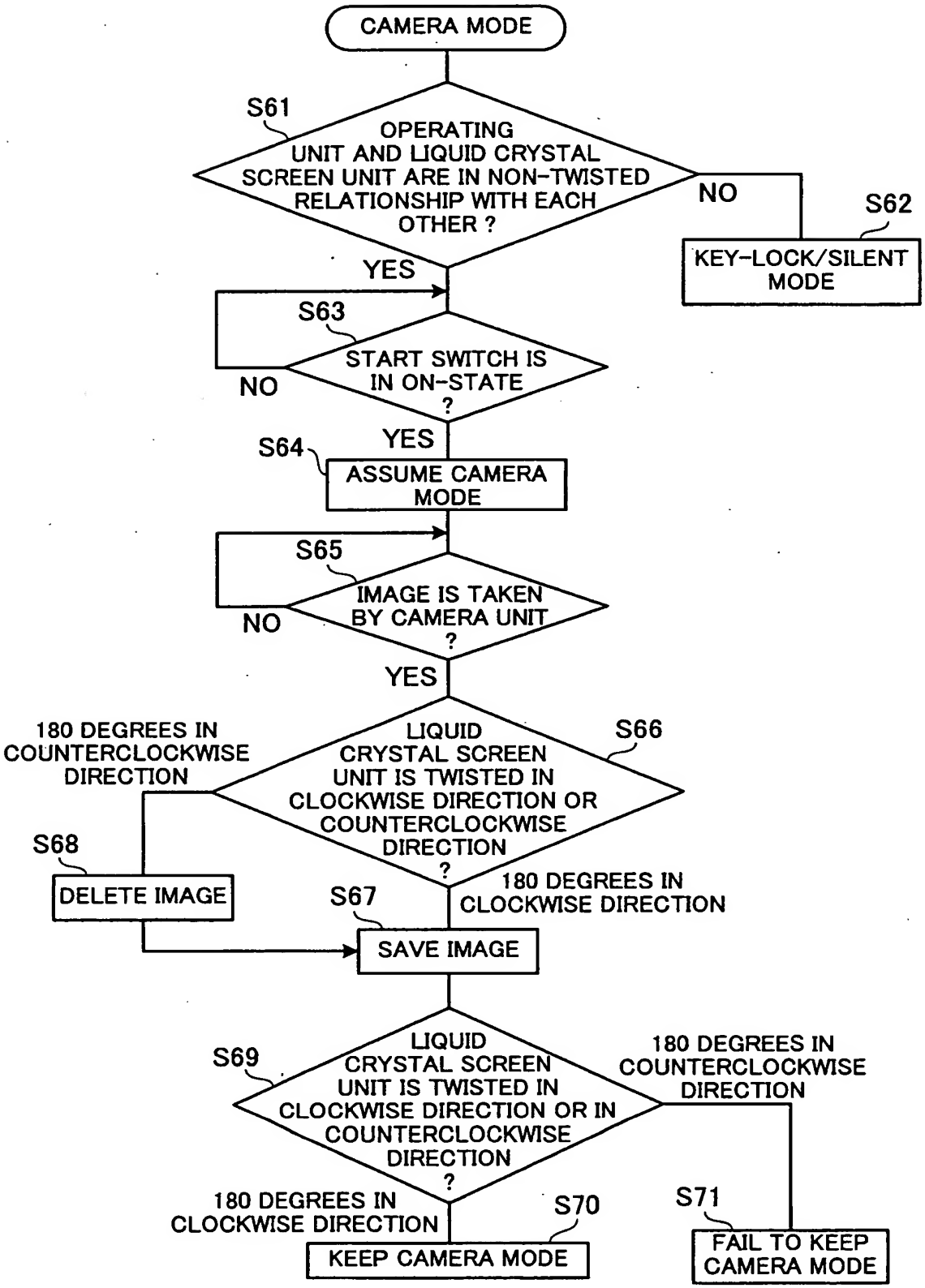

CAMERA MODE
S61
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
S62
KEY-LOCK/SILENT MODE
YES
S63
START SWITCH IS IN ON-STATE ?
NO
YES
S64
ASSUME CAMERA MODE
S65
IMAGE IS TAKEN BY CAMERA UNIT ?
NO
YES
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
S66
S68
DELETE IMAGE
180 DEGREES IN CLOCKWISE DIRECTION
S67
SAVE IMAGE
S69
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR IN COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
180 DEGREES IN CLOCKWISE DIRECTION
S70
KEEP CAMERA MODE
S71
FAIL TO KEEP CAMERA MODE

FIG.16

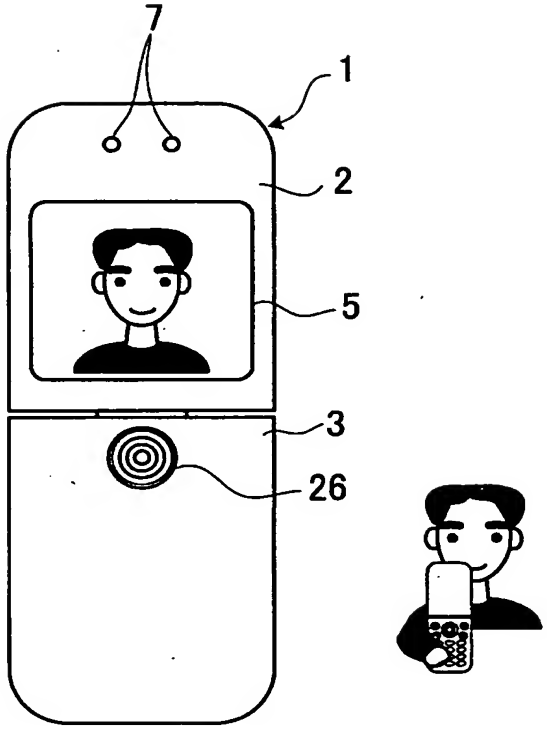


FIG.17

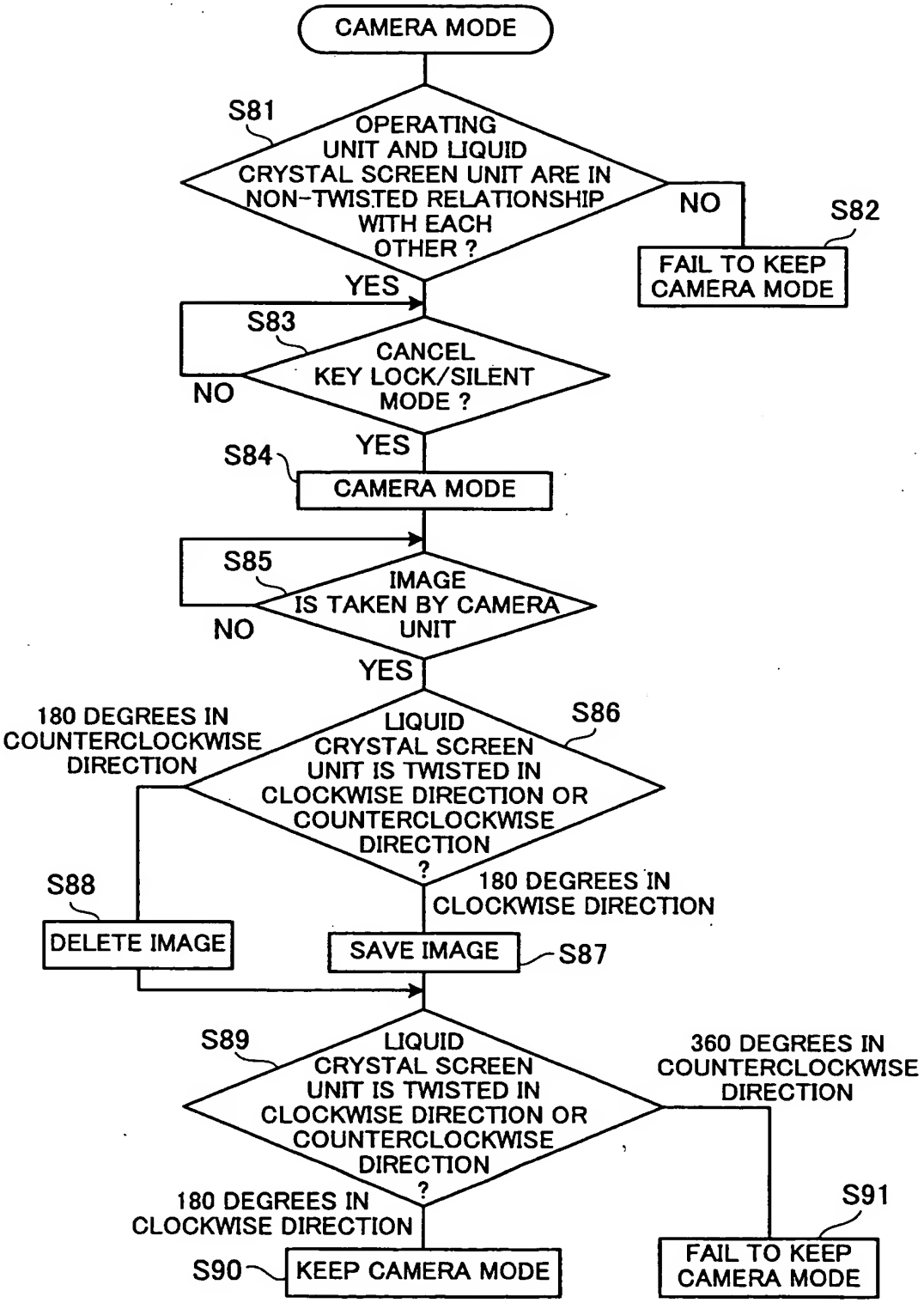

CAMERA MODE
S81
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
S82
FAIL TO KEEP CAMERA MODE
YES
S83
CANCEL KEY LOCK/SILENT MODE ?
NO
YES
S84
CAMERA MODE
S85
IMAGE IS TAKEN BY CAMERA UNIT
NO
YES
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
S86
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN CLOCKWISE DIRECTION
S88
DELETE IMAGE
SAVE IMAGE
S87
S89
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
360 DEGREES IN COUNTERCLOCKWISE DIRECTION
S91
180 DEGREES IN CLOCKWISE DIRECTION
S90
KEEP CAMERA MODE
FAIL TO KEEP CAMERA MODE

FIG.18

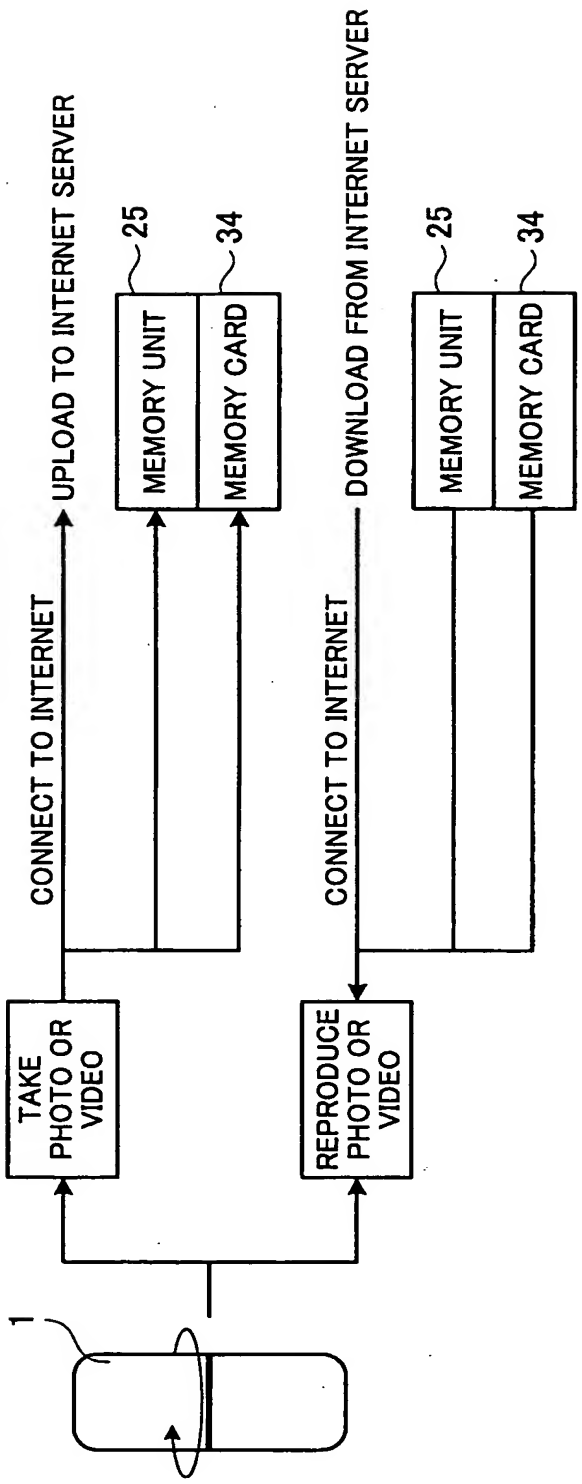

1
TAKE PHOTO OR VIDEO
REPRODUCE PHOTO OR VIDEO
CONNECT TO INTERNET
CONNECT TO INTERNET
UPLOAD TO INTERNET SERVER
DOWNLOAD FROM INTERNET SERVER
MEMORY UNIT
MEMORY CARD
MEMORY UNIT
MEMORY CARD
25
34
25
34

FIG.19

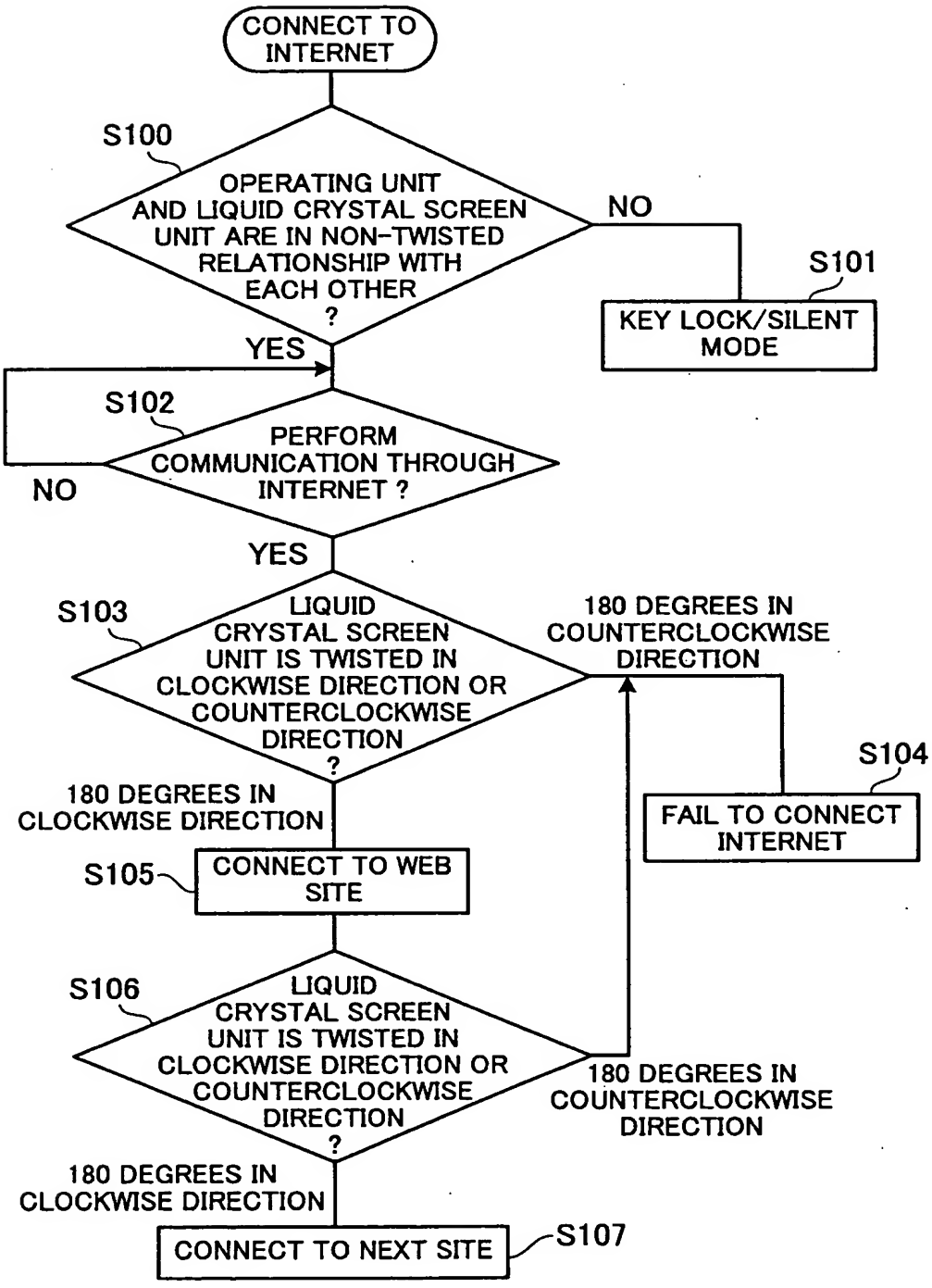

CONNECT TO INTERNET
S100
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
S101
KEY LOCK/SILENT MODE
YES
S102
PERFORM COMMUNICATION THROUGH INTERNET ?
NO
YES
S103
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
S104
FAIL TO CONNECT INTERNET
180 DEGREES IN CLOCKWISE DIRECTION
S105
CONNECT TO WEB SITE
S106
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
180 DEGREES IN CLOCKWISE DIRECTION
CONNECT TO NEXT SITE
S107

FIG.20

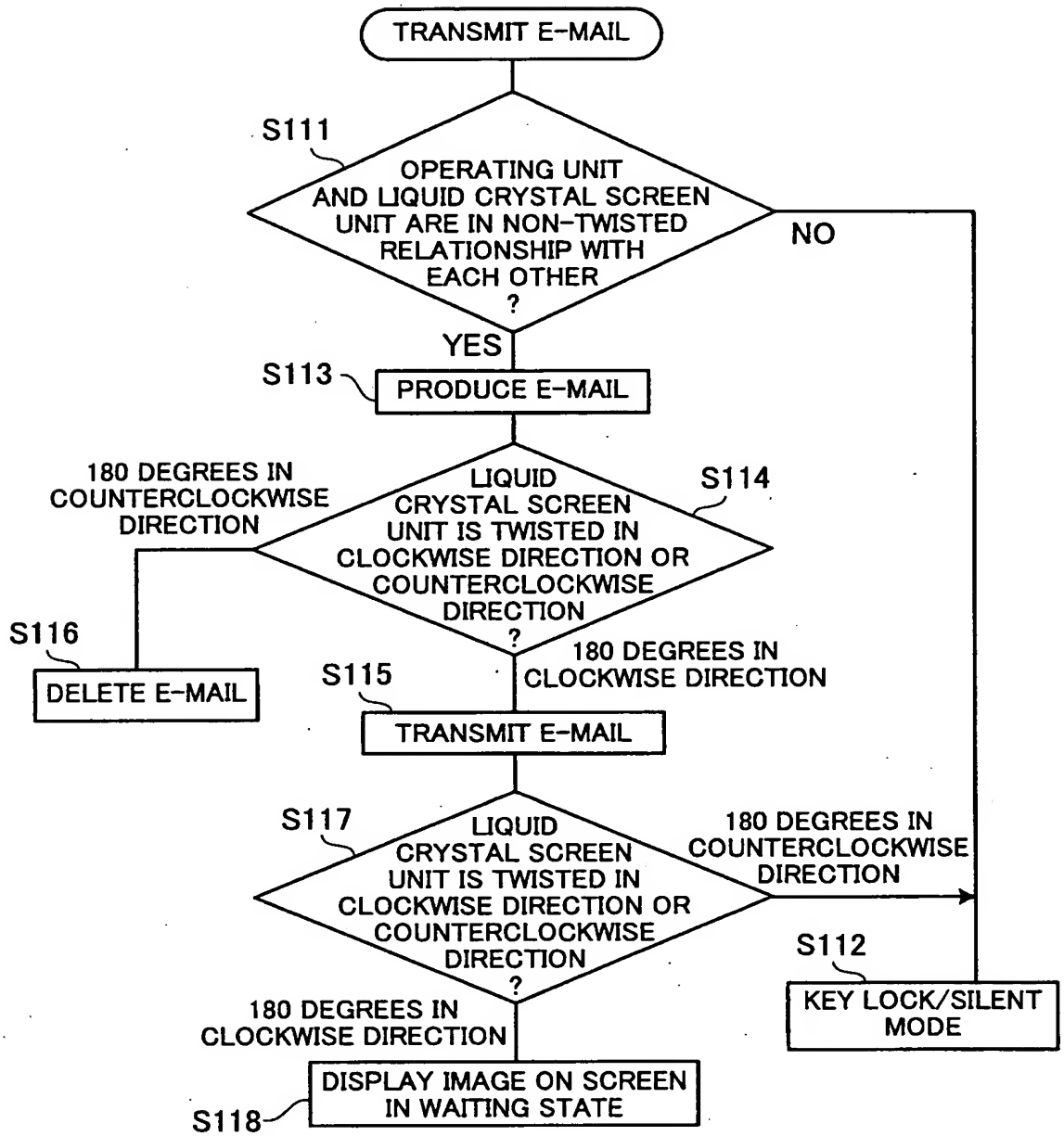

TRANSMIT E-MAIL
S111
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S113
PRODUCE E-MAIL
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
S114
S116
DELETE E-MAIL
180 DEGREES IN CLOCKWISE DIRECTION
S115
TRANSMIT E-MAIL
S117
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
S112
KEY LOCK/SILENT MODE
180 DEGREES IN CLOCKWISE DIRECTION
DISPLAY IMAGE ON SCREEN IN WAITING STATE
S118

FIG.21

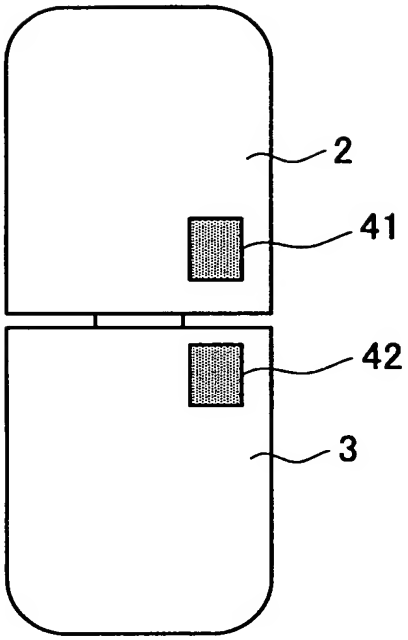


FIG.22

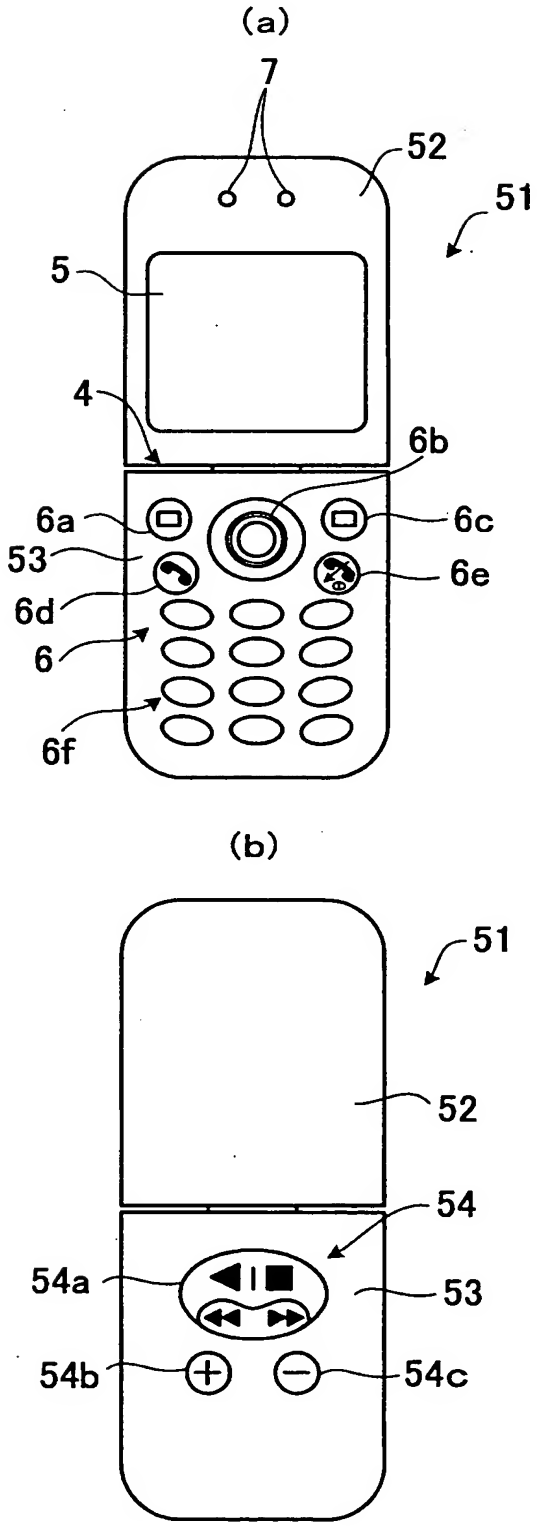


FIG.23

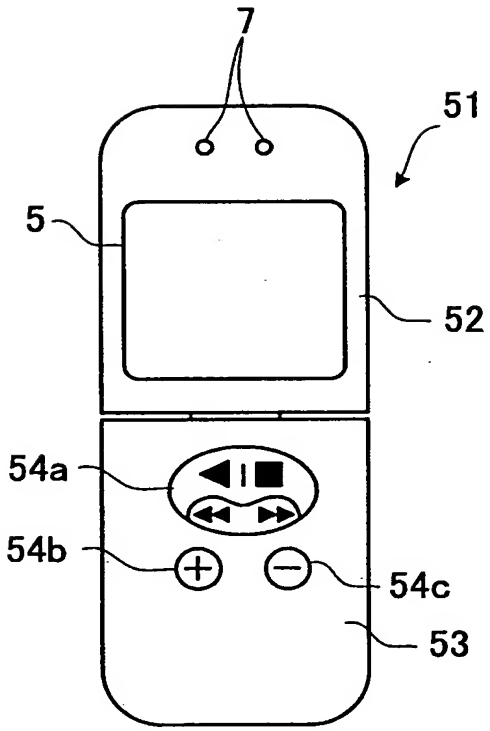


FIG.24

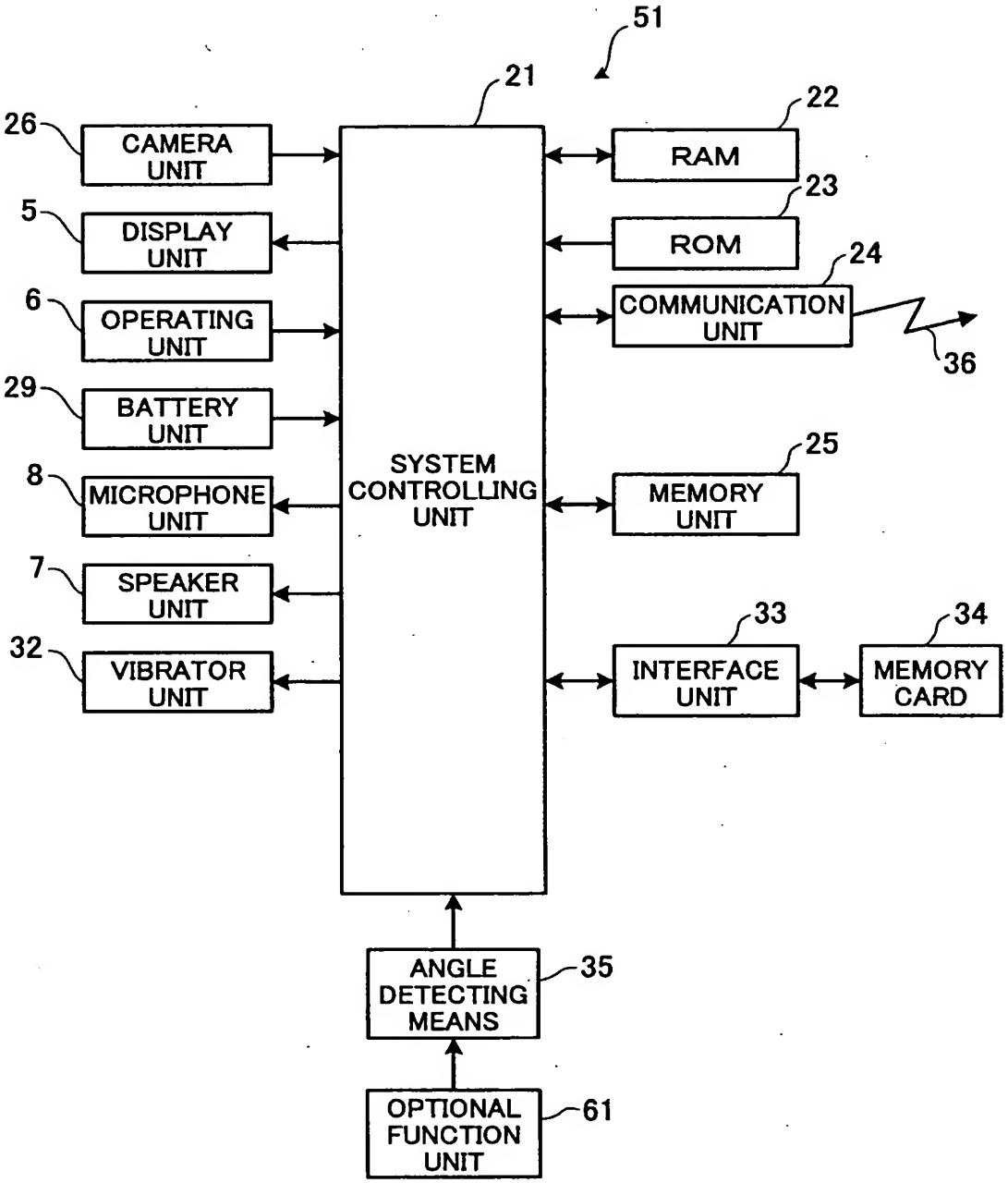

51
21
22
26
CAMERA UNIT
RAM
23
5
DISPLAY UNIT
ROM
24
6
OPERATING UNIT
COMMUNICATION UNIT
36
29
BATTERY UNIT
25
SYSTEM CONTROLLING UNIT
8
MICROPHONE UNIT
MEMORY UNIT
7
SPEAKER UNIT
33
34
32
VIBRATOR UNIT
INTERFACE UNIT
MEMORY CARD
ANGLE DETECTING MEANS
35
OPTIONAL FUNCTION UNIT
61

FIG.25

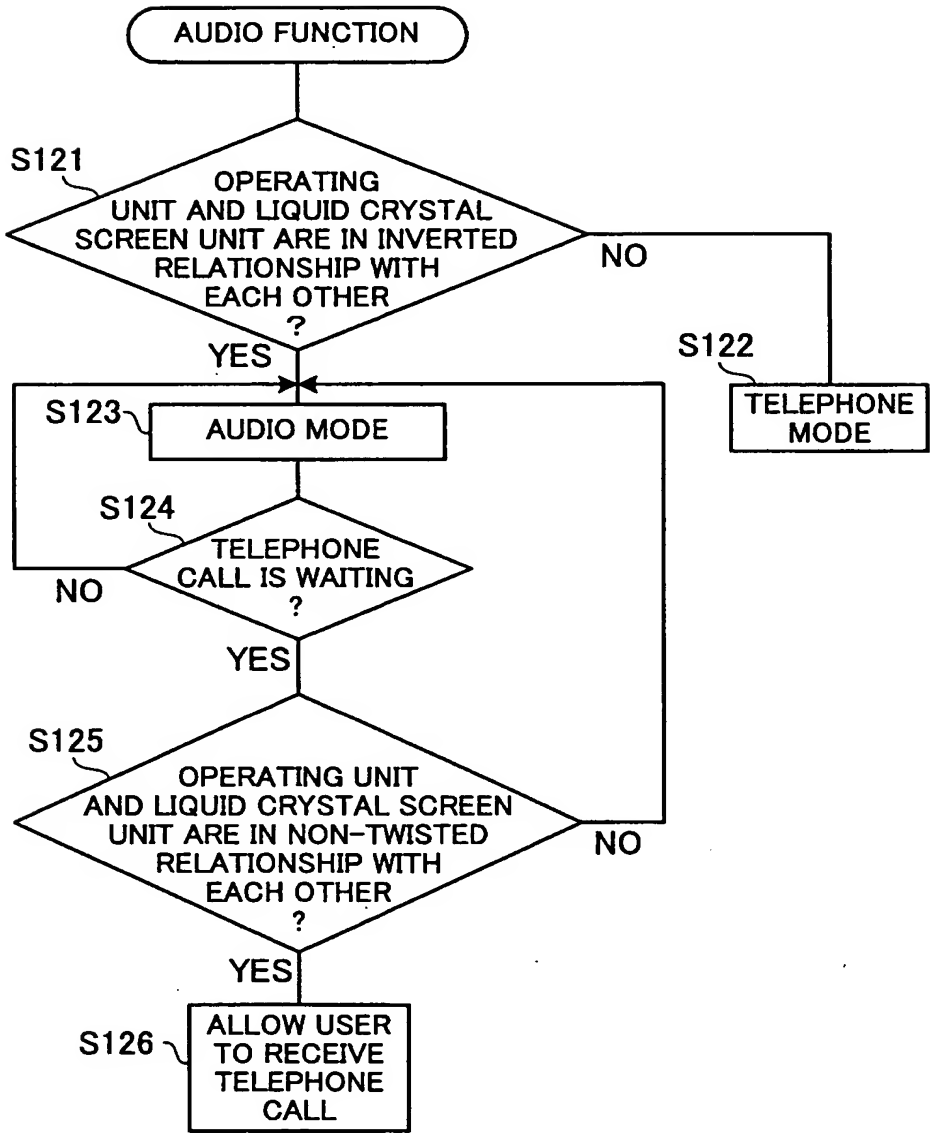

AUDIO FUNCTION
S121
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S122
TELEPHONE MODE
S123
AUDIO MODE
S124
TELEPHONE CALL IS WAITING ?
NO
YES
S125
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S126
ALLOW USER TO RECEIVE TELEPHONE CALL

FIG.26

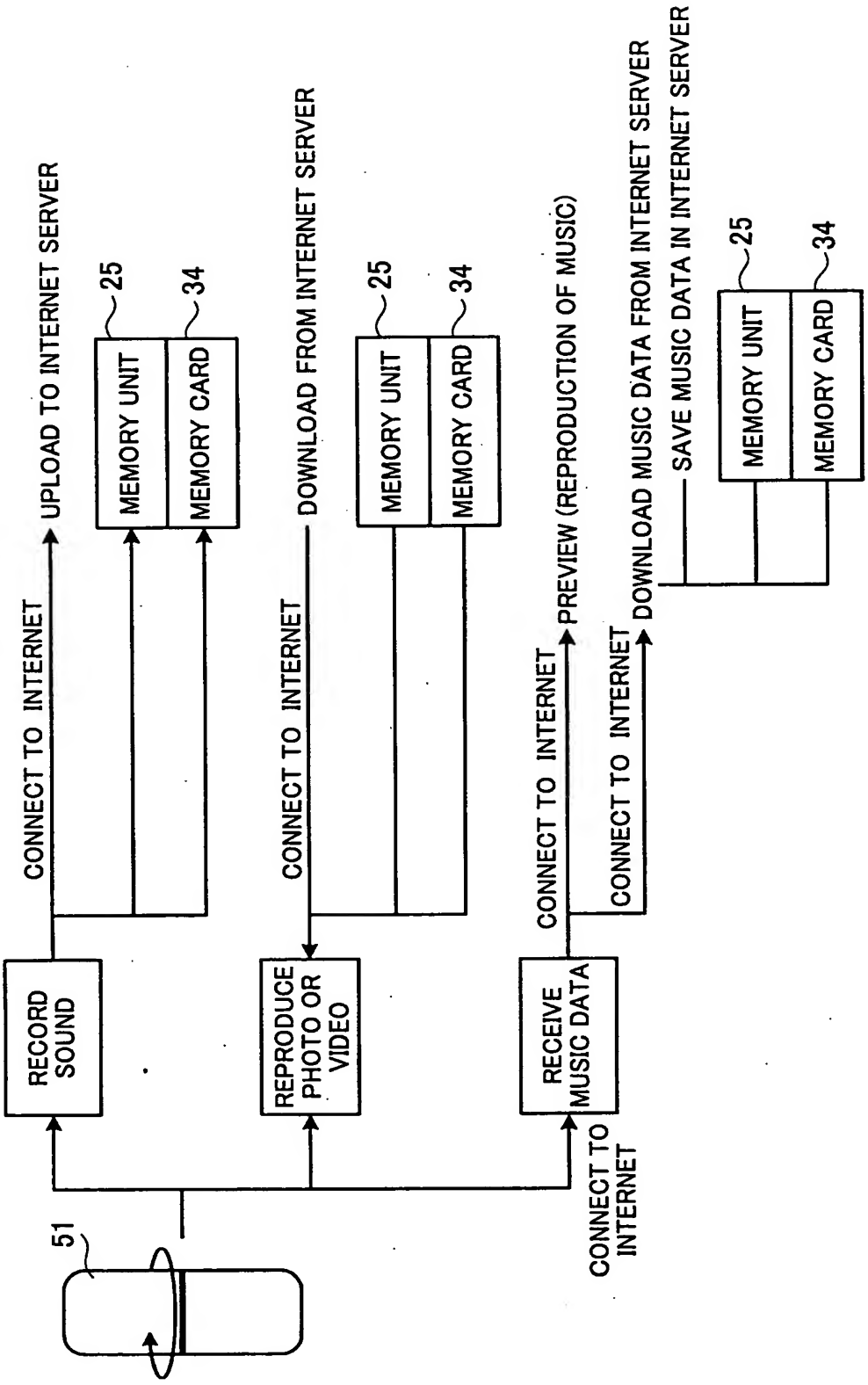

51
CONNECT TO INTERNET
RECORD SOUND
UPLOAD TO INTERNET SERVER
25
MEMORY UNIT
34
MEMORY CARD
CONNECT TO INTERNET
REPRODUCE PHOTO OR VIDEO
DOWNLOAD FROM INTERNET SERVER
25
MEMORY UNIT
34
MEMORY CARD
CONNECT TO INTERNET
RECEIVE MUSIC DATA
PREVIEW (REPRODUCTION OF MUSIC)
CONNECT TO INTERNET
DOWNLOAD MUSIC DATA FROM INTERNET SERVER
SAVE MUSIC DATA IN INTERNET SERVER
25
MEMORY UNIT
34
MEMORY CARD

FIG.27

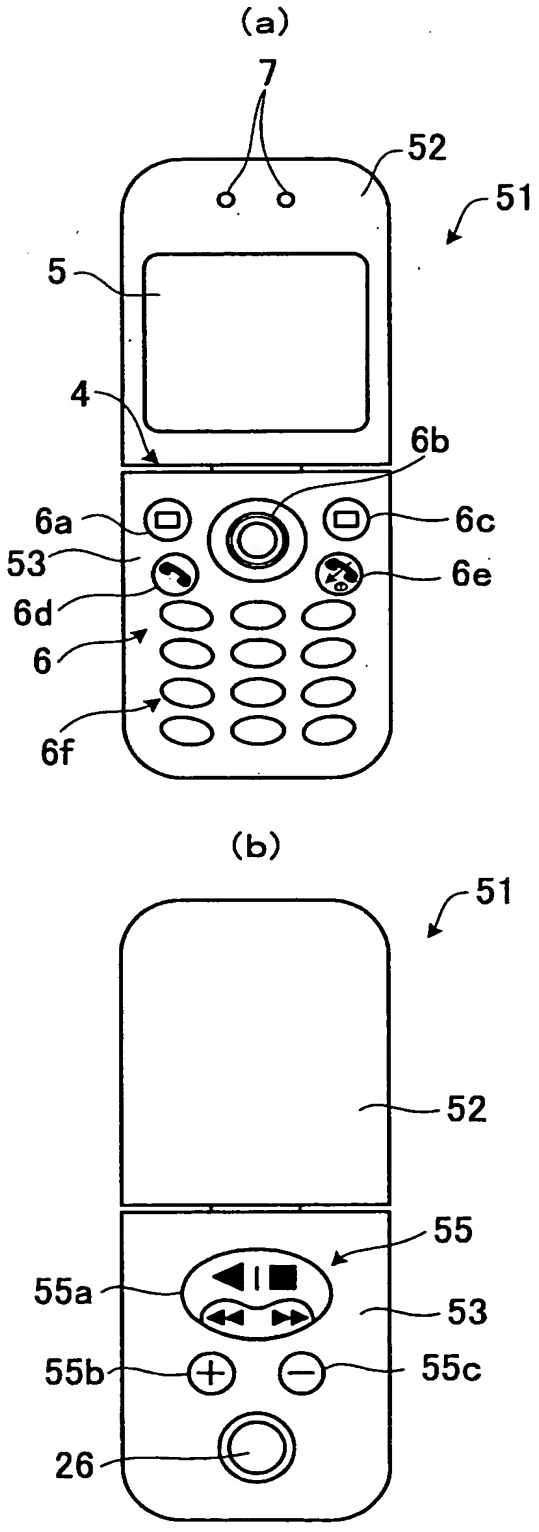
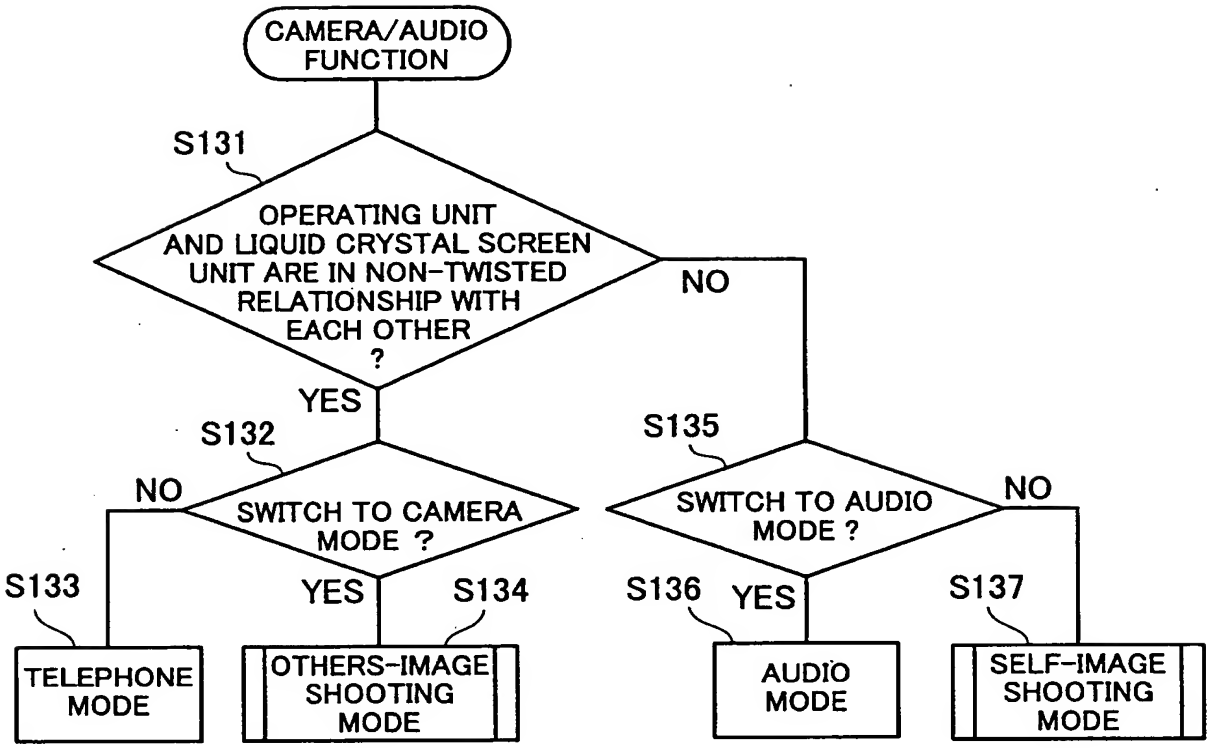


FIG.28


CAMERA/AUDIO FUNCTION
S131
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S132
SWITCH TO CAMERA MODE ?
NO
YES
S133
TELEPHONE MODE
S134
OTHERS-IMAGE SHOOTING MODE
S135
SWITCH TO AUDIO MODE ?
NO
YES
S136
AUDIO MODE
S137
SELF-IMAGE SHOOTING MODE

GIG.29

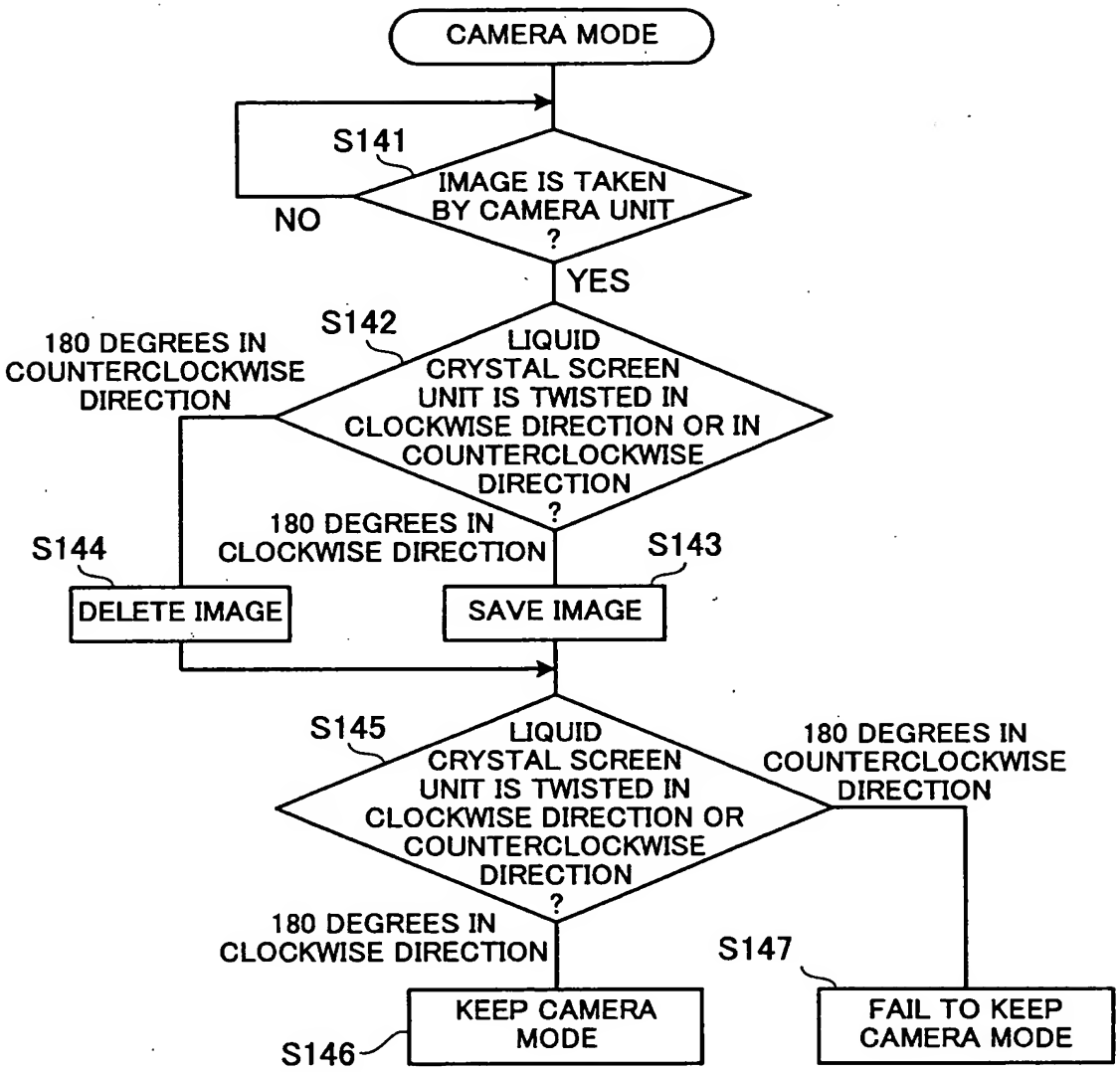

CAMERA MODE
S141
IMAGE IS TAKEN BY CAMERA UNIT ?
NO
YES
S142
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR IN COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
180 DEGREES IN CLOCKWISE DIRECTION
S144
DELETE IMAGE
S143
SAVE IMAGE
S145
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
180 DEGREES IN COUNTERCLOCKWISE DIRECTION
180 DEGREES IN CLOCKWISE DIRECTION
S147
KEEP CAMERA MODE
S146
FAIL TO KEEP CAMERA MODE

FIG.30

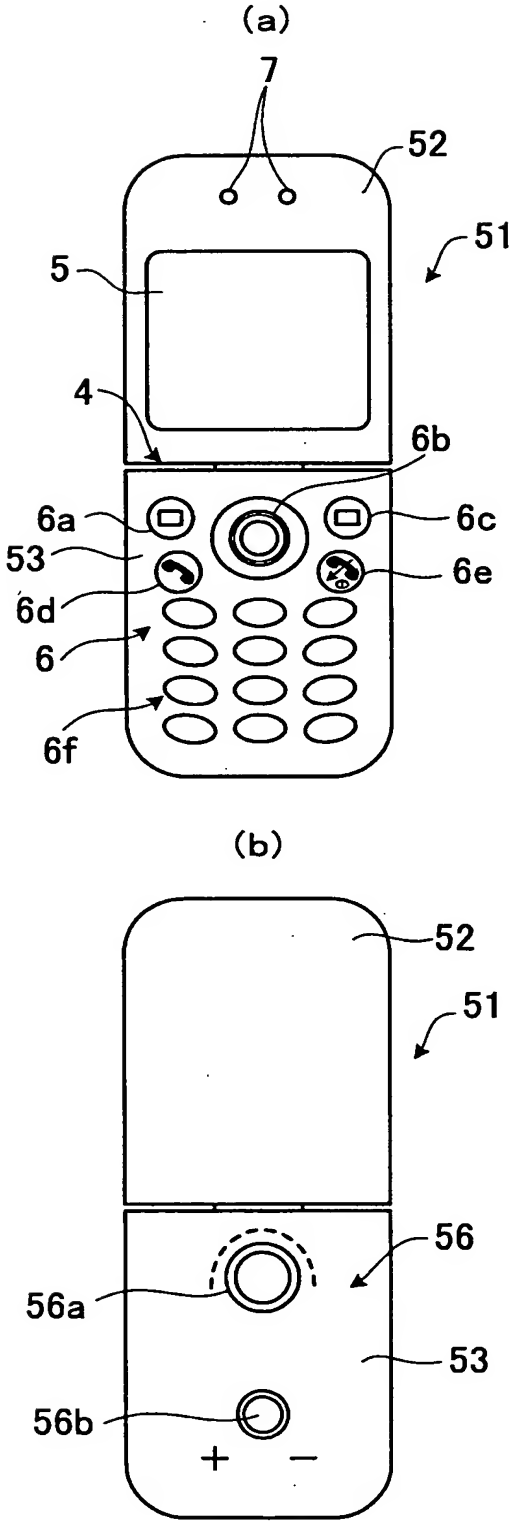


FIG.31

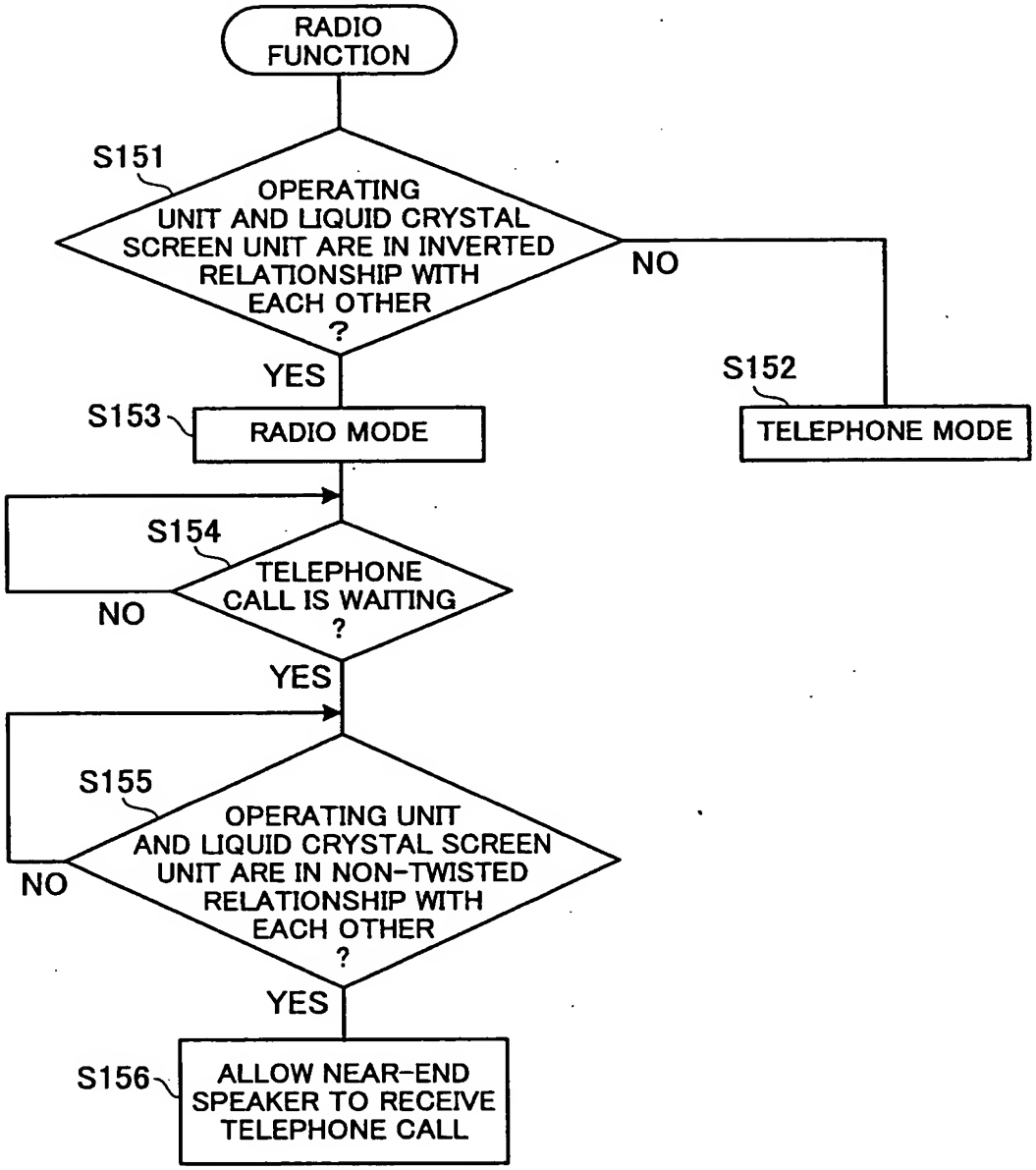

RADIO FUNCTION
S151
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S152
TELEPHONE MODE
S153
RADIO MODE
S154
TELEPHONE CALL IS WAITING ?
NO
YES
S155
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S156
ALLOW NEAR-END SPEAKER TO RECEIVE TELEPHONE CALL

FIG.32

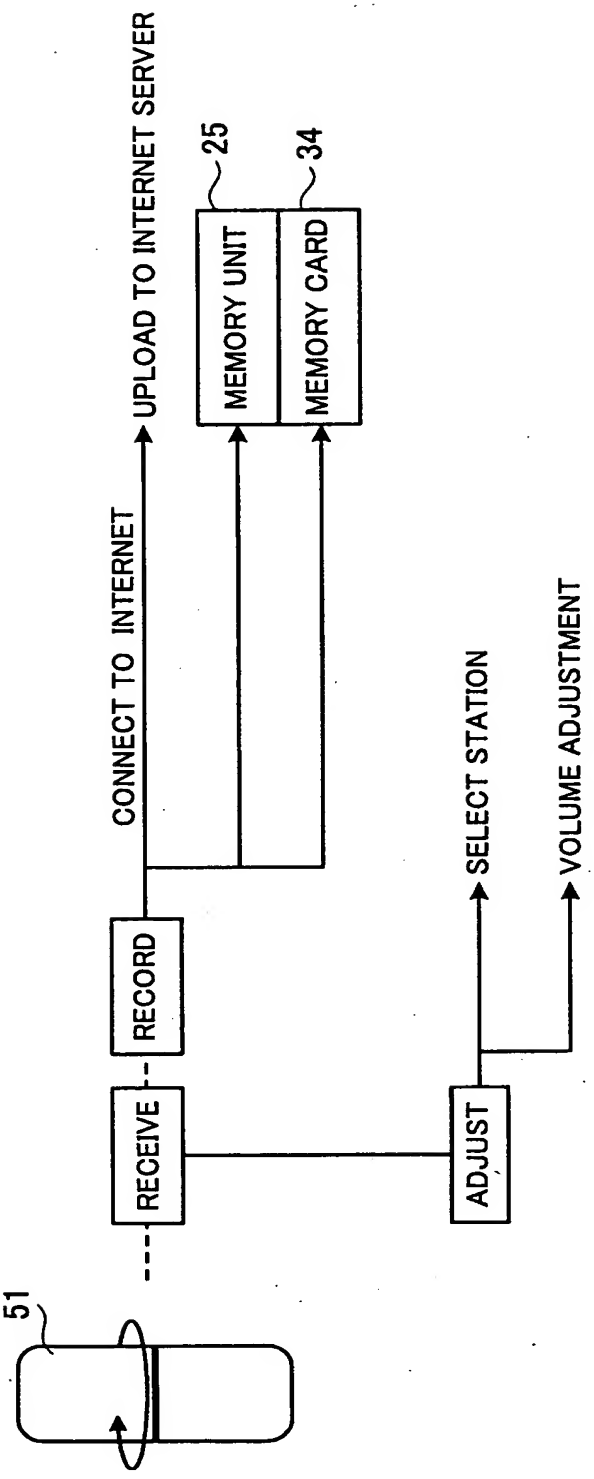

51
RECEIVE
RECORD
ADJUST
CONNECT TO INTERNET
UPLOAD TO INTERNET SERVER
SELECT STATION
VOLUME ADJUSTMENT
25
MEMORY UNIT
34
MEMORY CARD

FIG.33

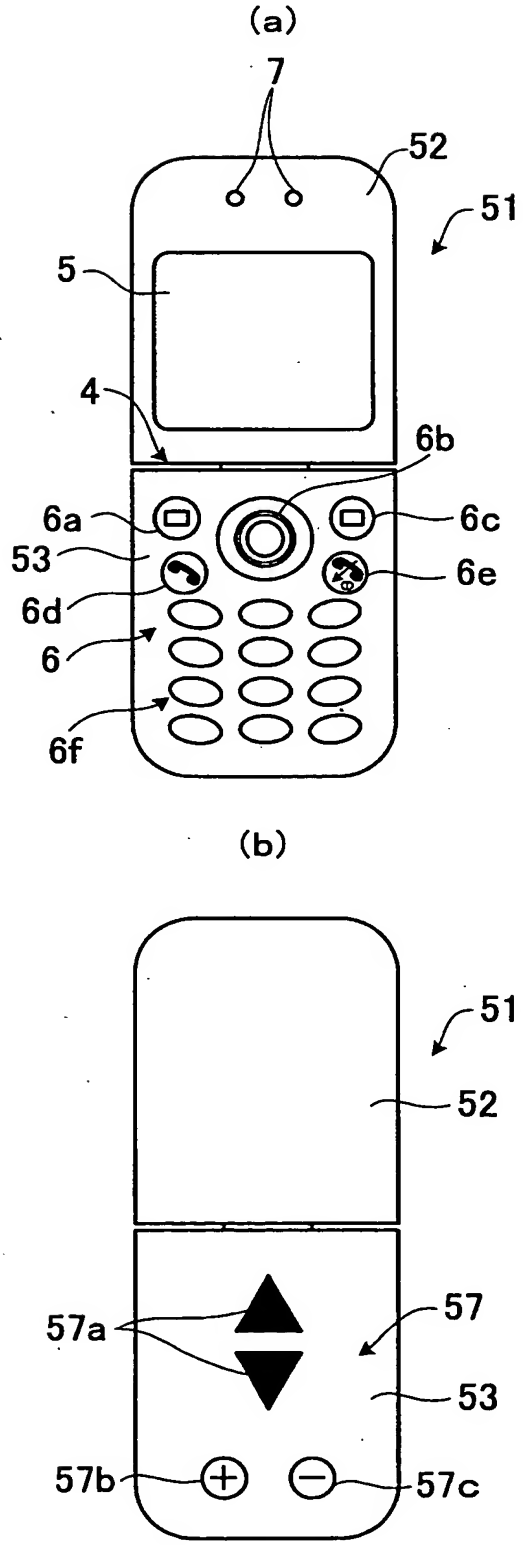


FIG.34

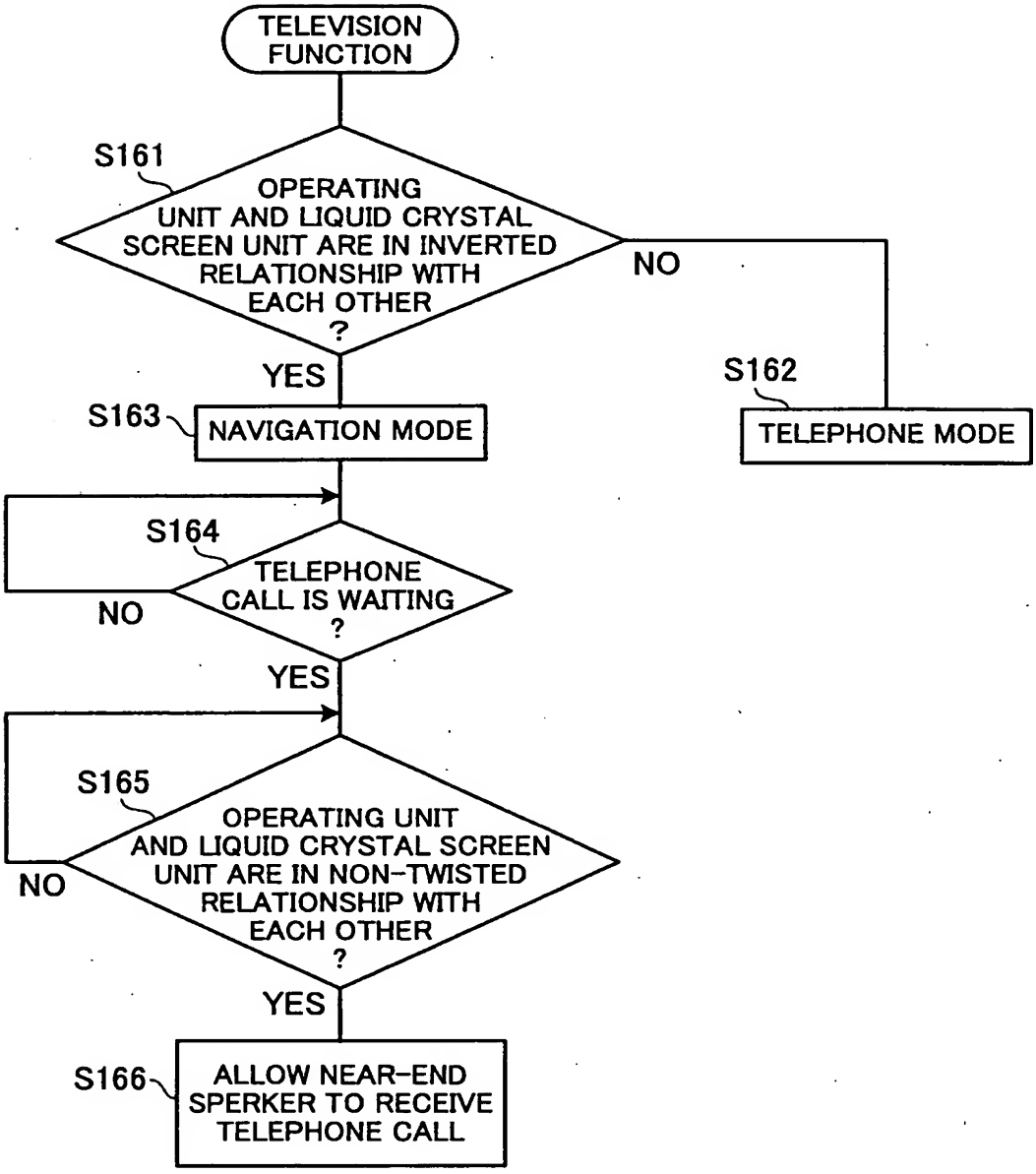

TELEVISION FUNCTION
S161
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S162
TELEPHONE MODE
S163
NAVIGATION MODE
S164
TELEPHONE CALL IS WAITING ?
NO
YES
S165
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S166
ALLOW NEAR-END SPERKER TO RECEIVE TELEPHONE CALL

FIG.35

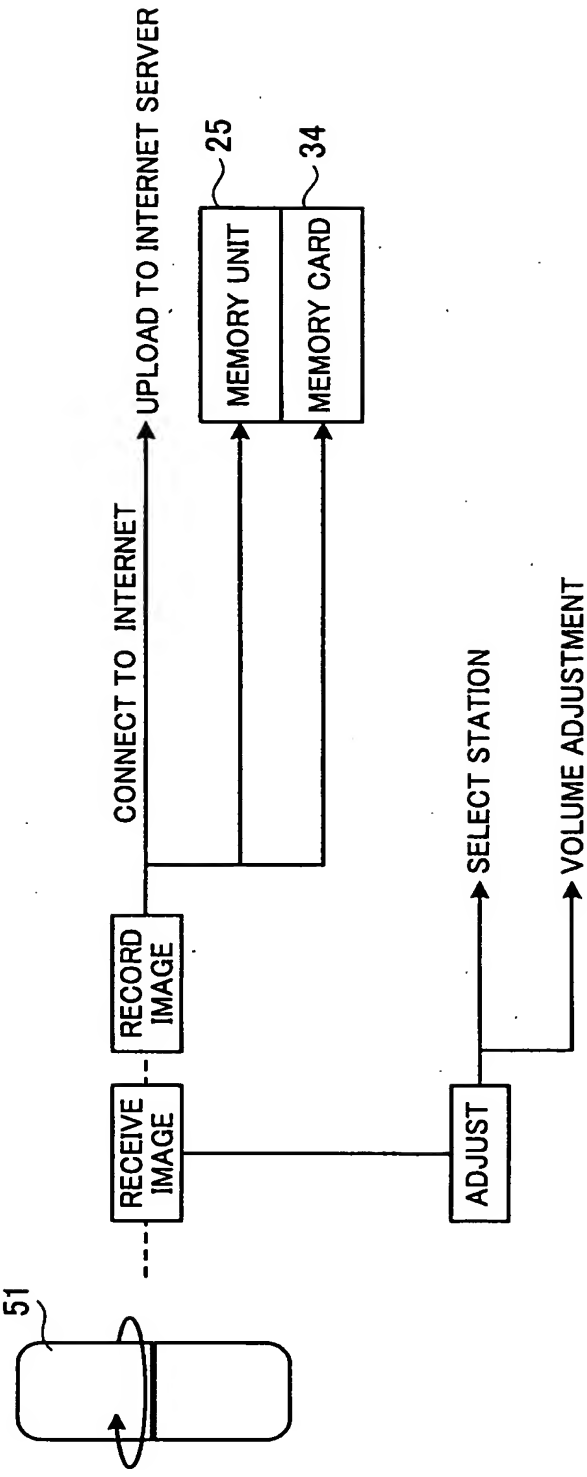

51
RECEIVE IMAGE
RECORD IMAGE
ADJUST
CONNECT TO INTERNET
UPLOAD TO INTERNET SERVER
SELECT STATION
VOLUME ADJUSTMENT
MEMORY UNIT
MEMORY CARD
25
34

FIG.36

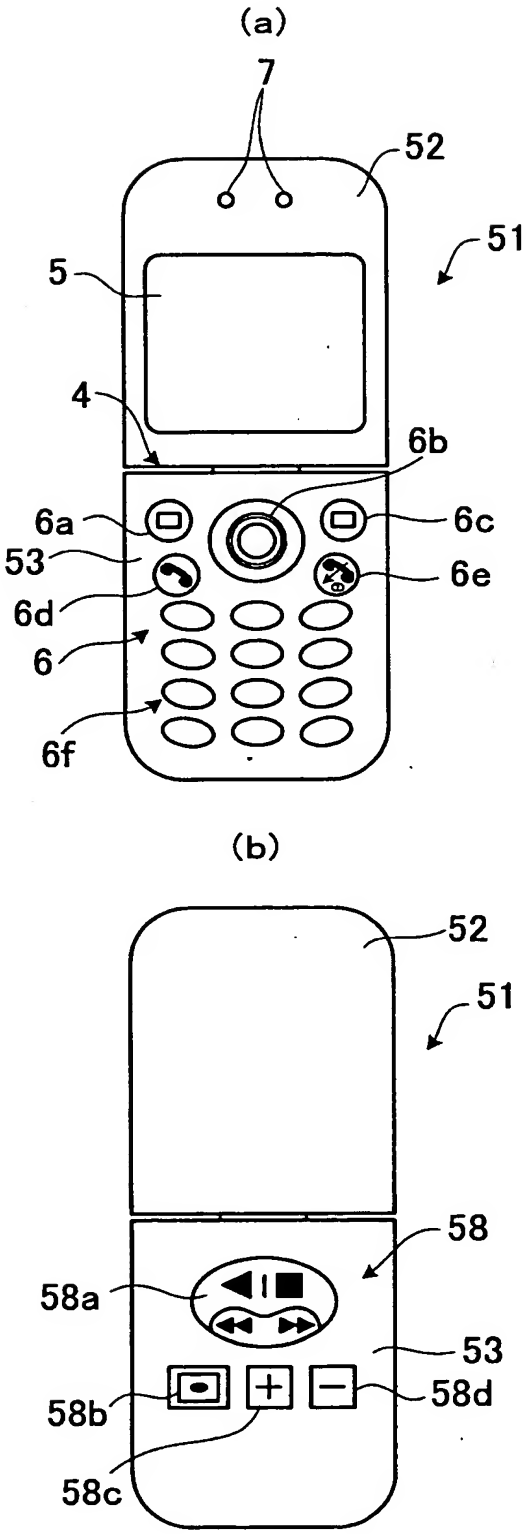


FIG.37

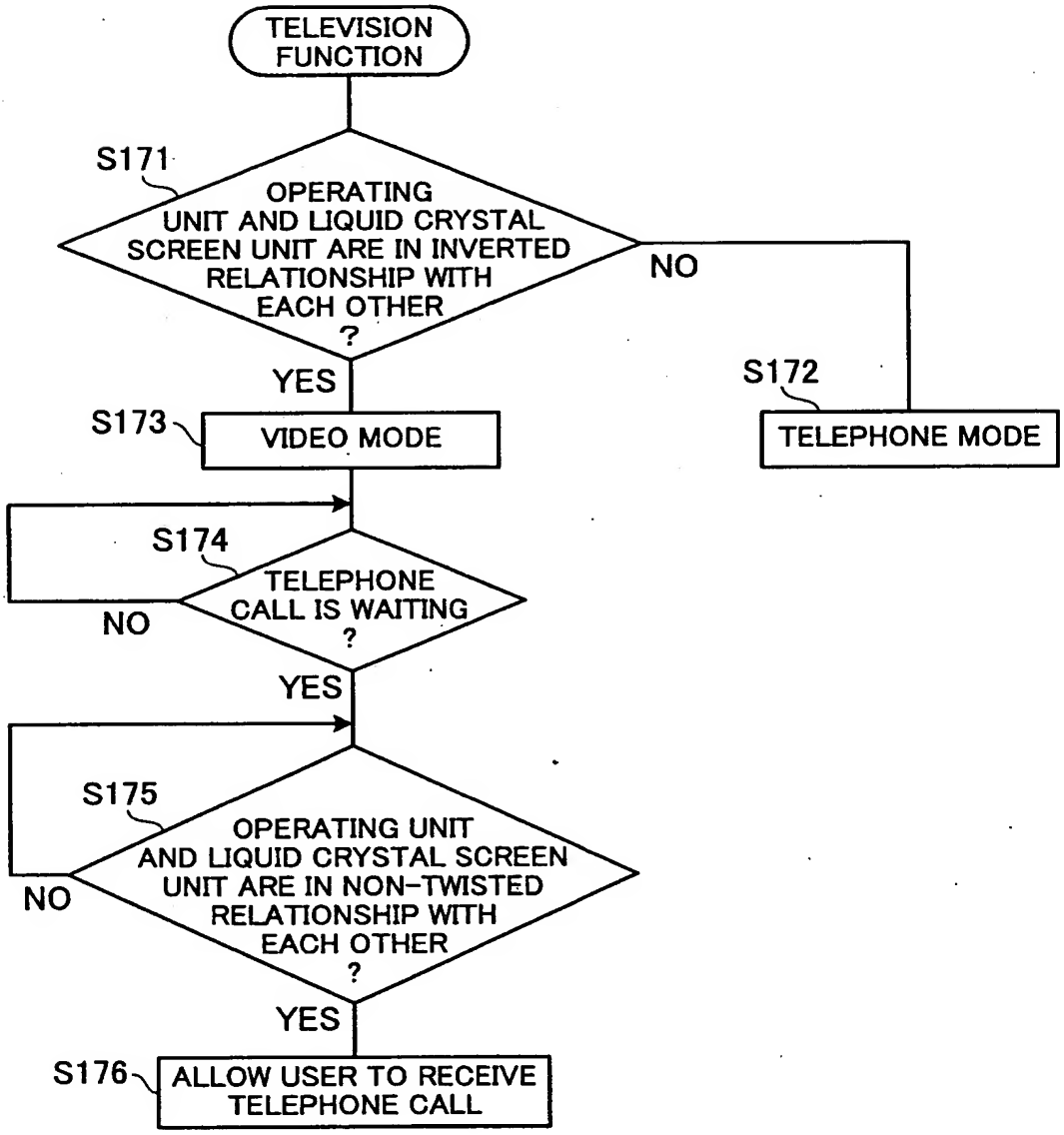

TELEVISION FUNCTION
S171
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S172
TELEPHONE MODE
S173
VIDEO MODE
S174
TELEPHONE CALL IS WAITING ?
NO
YES
S175
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S176
ALLOW USER TO RECEIVE TELEPHONE CALL

FIG.38

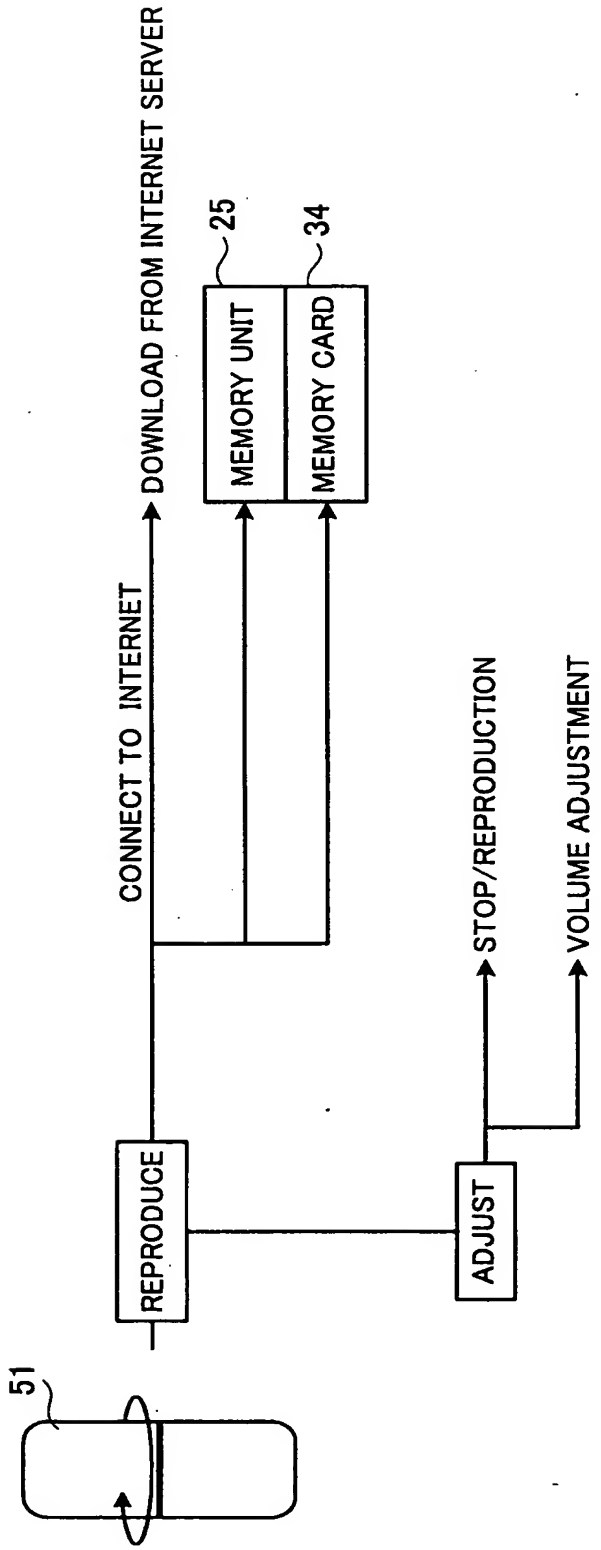

51
REPRODUCE
ADJUST
CONNECT TO INTERNET
DOWNLOAD FROM INTERNET SERVER
MEMORY UNIT
MEMORY CARD
25
34
STOP/REPRODUCTION
VOLUME ADJUSTMENT

FIG.39

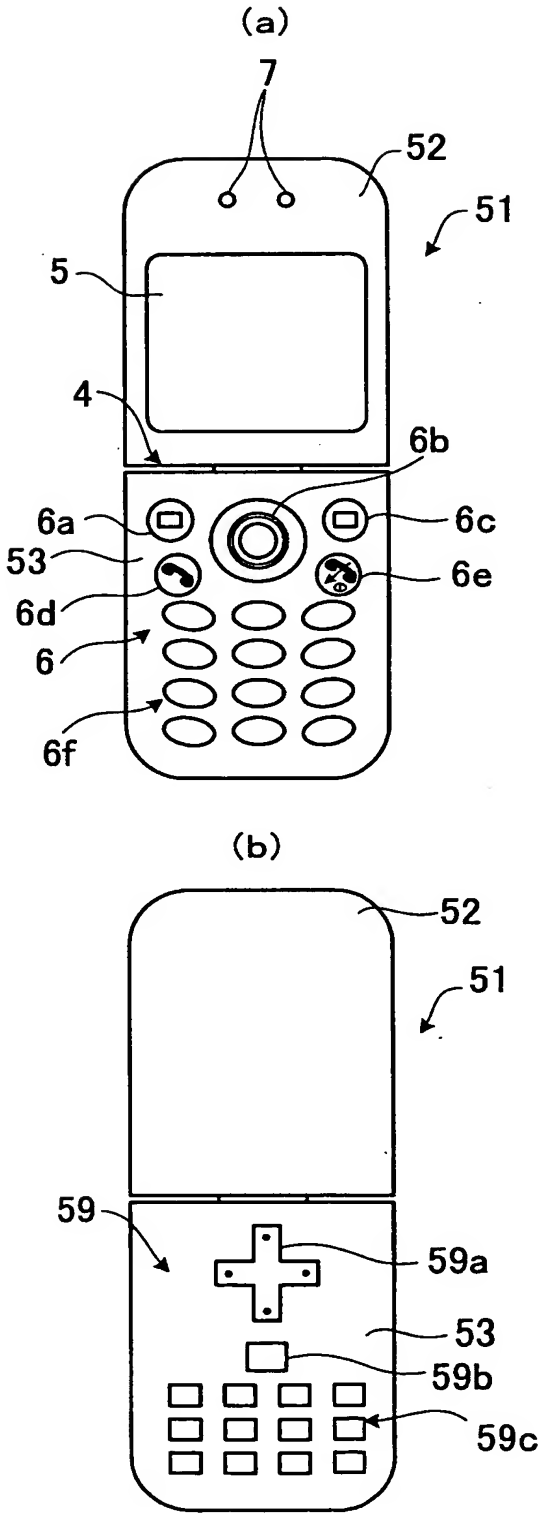


FIG.40

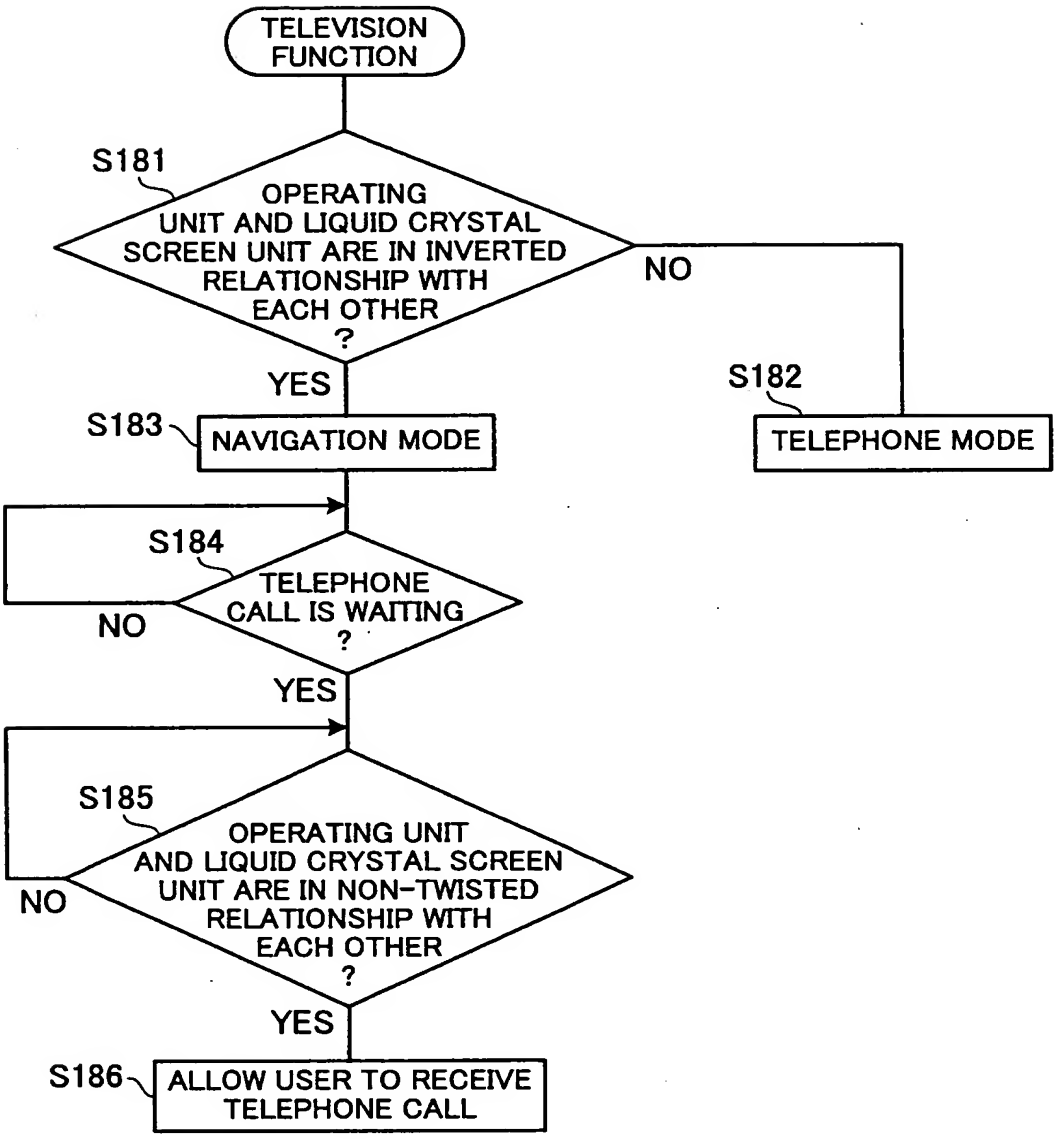

TELEVISION FUNCTION
S181
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S182
TELEPHONE MODE
S183
NAVIGATION MODE
S184
TELEPHONE CALL IS WAITING ?
NO
YES
S185
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN NON-TWISTED RELATIONSHIP WITH EACH OTHER ?
NO
YES
S186
ALLOW USER TO RECEIVE TELEPHONE CALL

FIG.41

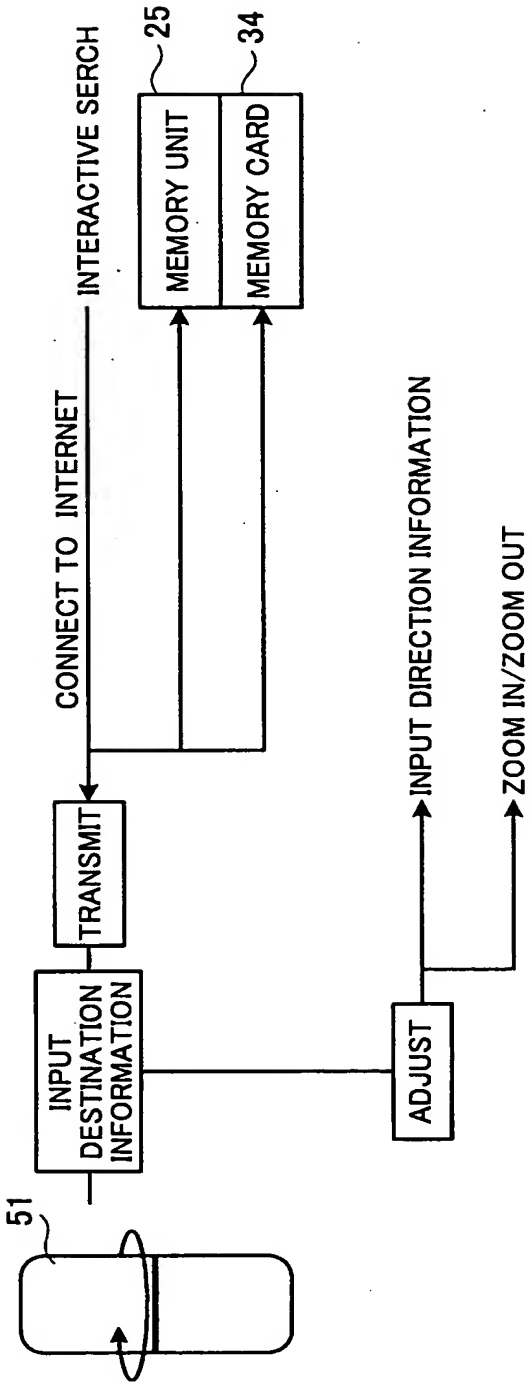

25
34
INTERACTIVE SERCH
MEMORY UNIT
MEMORY CARD
CONNECT TO INTERNET
INPUT DIRECTION INFORMATION
ZOOM IN/ZOOM OUT
TRANSMIT
INPUT DESTINATION INFORMATION
ADJUST
51

FIG.42

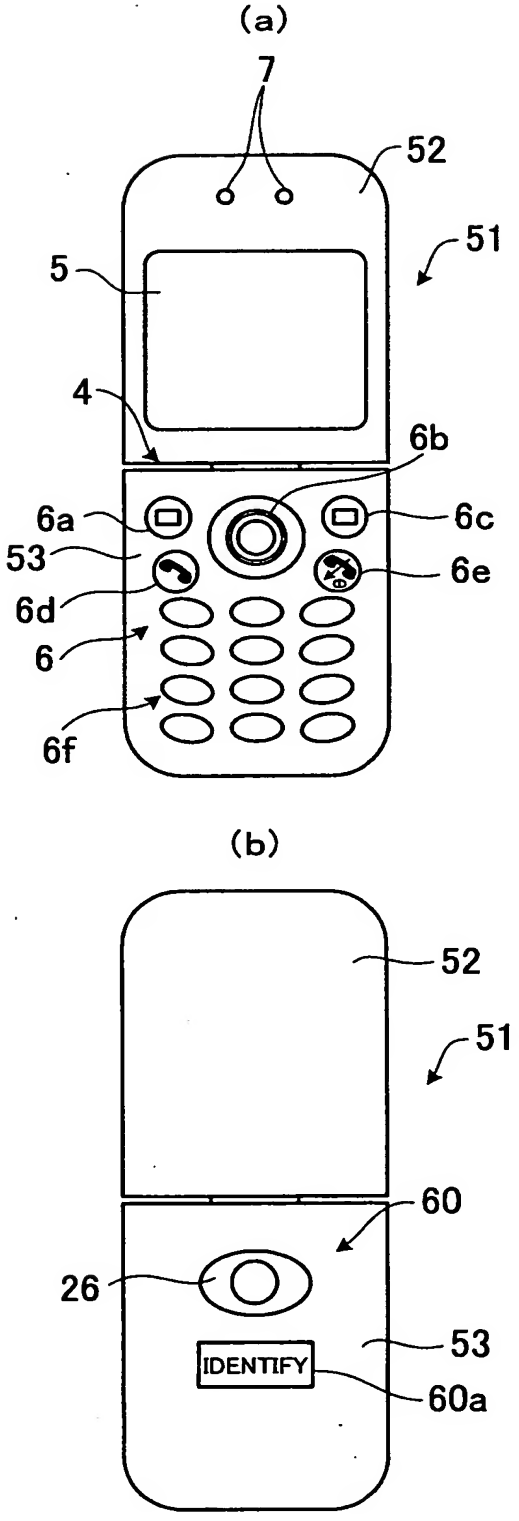


FIG.43

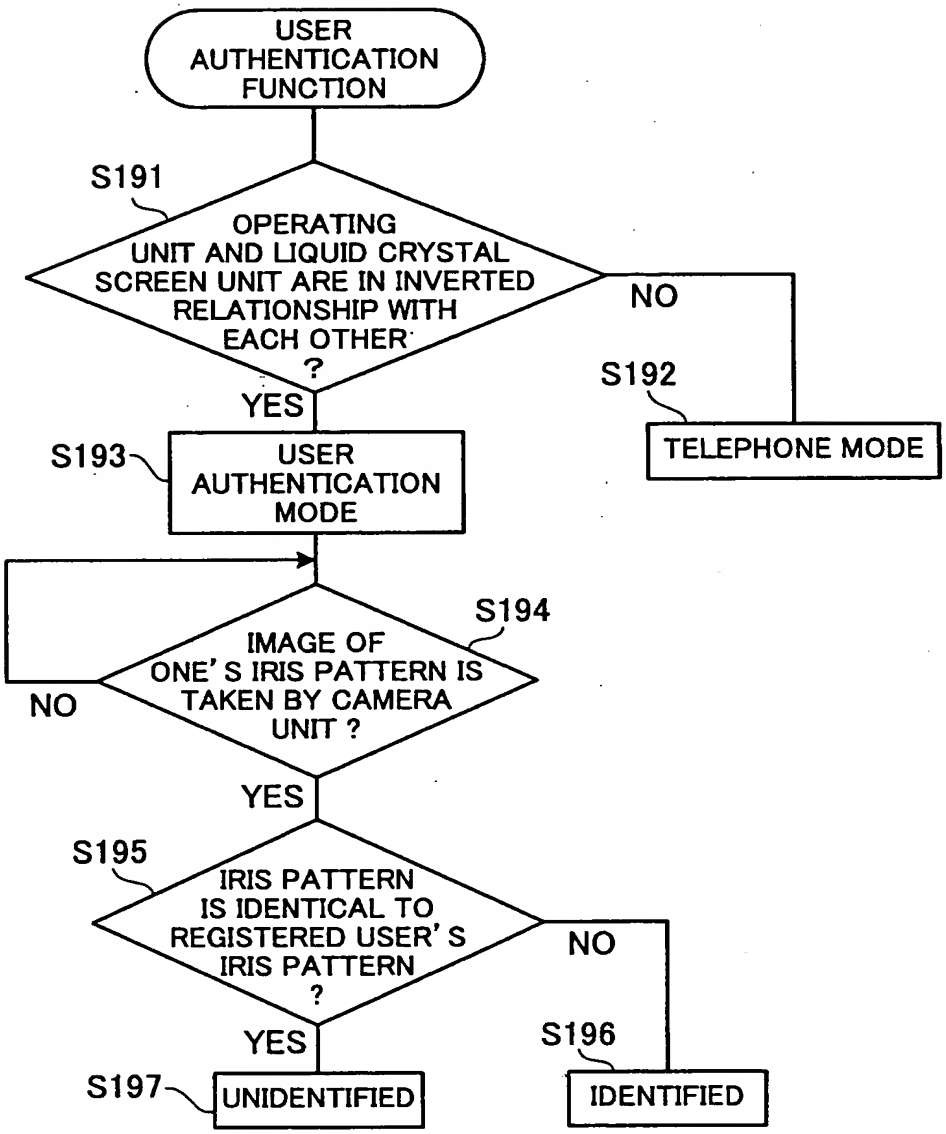

USER AUTHENTICATION FUNCTION
S191
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
S192
TELEPHONE MODE
YES
S193
USER AUTHENTICATION MODE
S194
IMAGE OF ONE'S IRIS PATTERN IS TAKEN BY CAMERA UNIT ?
NO
YES
S195
IRIS PATTERN IS IDENTICAL TO REGISTERED USER'S IRIS PATTERN ?
NO
S196
IDENTIFIED
YES
S197
UNIDENTIFIED

FIG.44

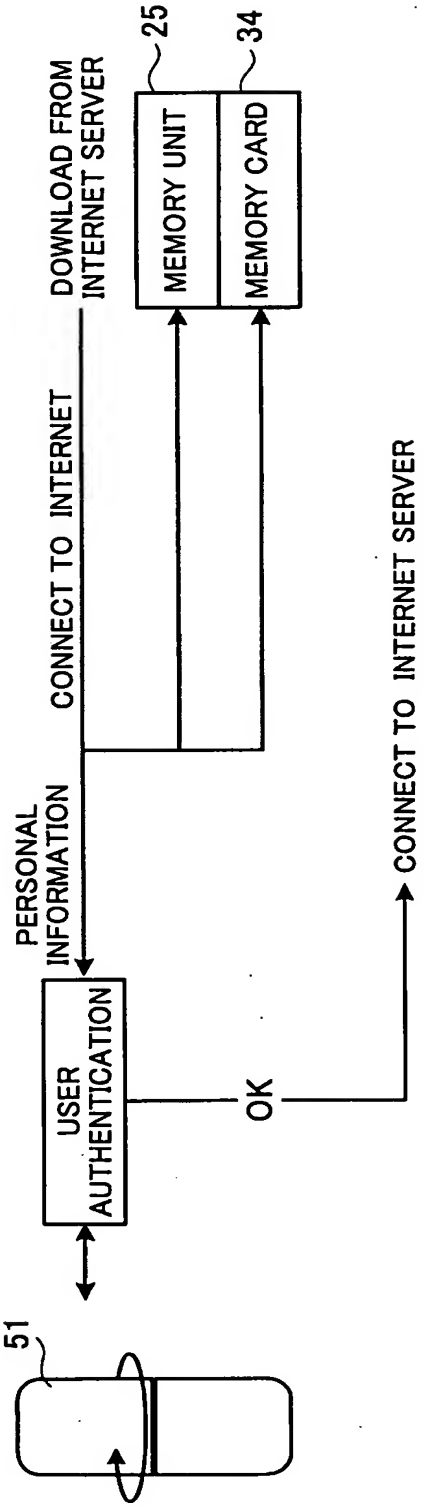

25
34
MEMORY UNIT
MEMORY CARD
DOWNLOAD FROM INTERNET SERVER
CONNECT TO INTERNET
PERSONAL INFORMATION
USER AUTHENTICATION
OK
CONNECT TO INTERNET SERVER
51

FIG.45

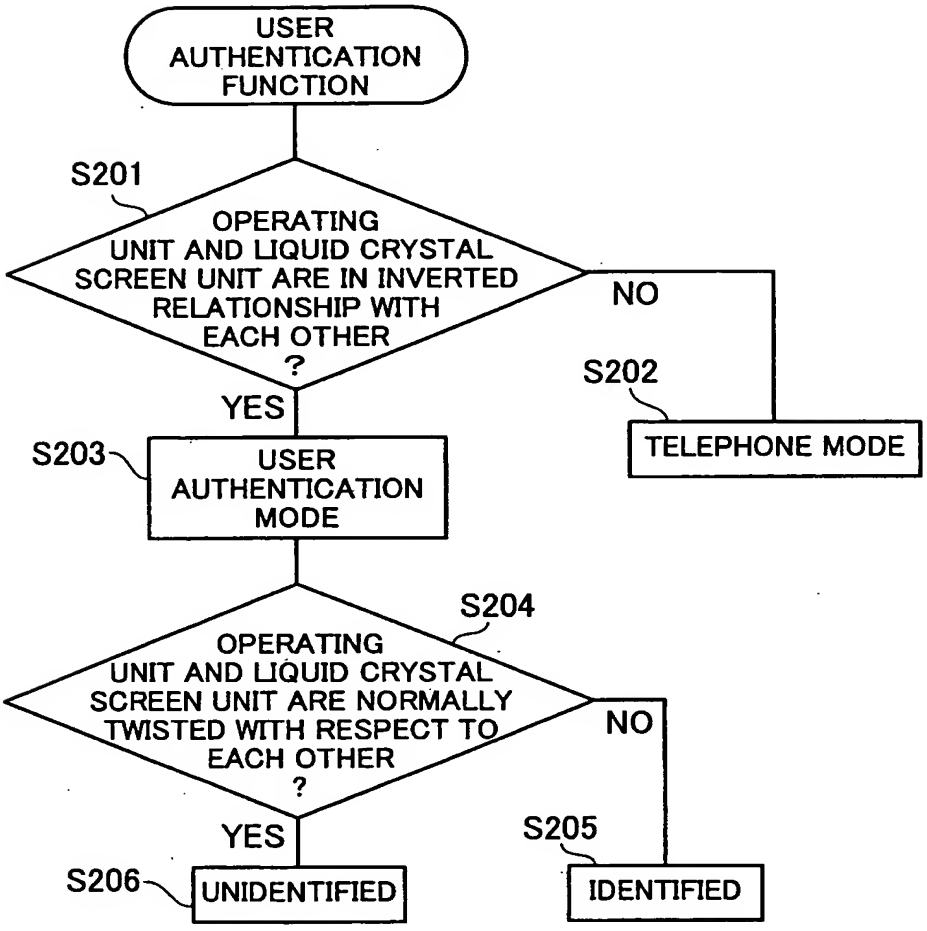

USER AUTHENTICATION FUNCTION
S201
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE IN INVERTED RELATIONSHIP WITH EACH OTHER ?
NO
S202
TELEPHONE MODE
YES
S203
USER AUTHENTICATION MODE
S204
OPERATING UNIT AND LIQUID CRYSTAL SCREEN UNIT ARE NORMALLY TWISTED WITH RESPECT TO EACH OTHER ?
NO
S205
IDENTIFIED
YES
S206
UNIDENTIFIED

FIG.46

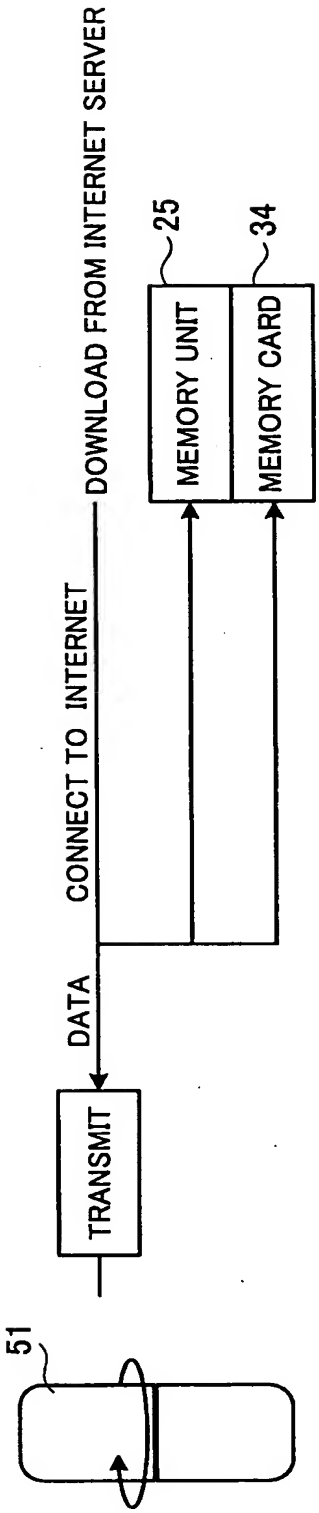

51
TRANSMIT
DATA
CONNECT TO INTERNET
DOWNLOAD FROM INTERNET SERVER
25
MEMORY UNIT
34
MEMORY CARD

FIG.47

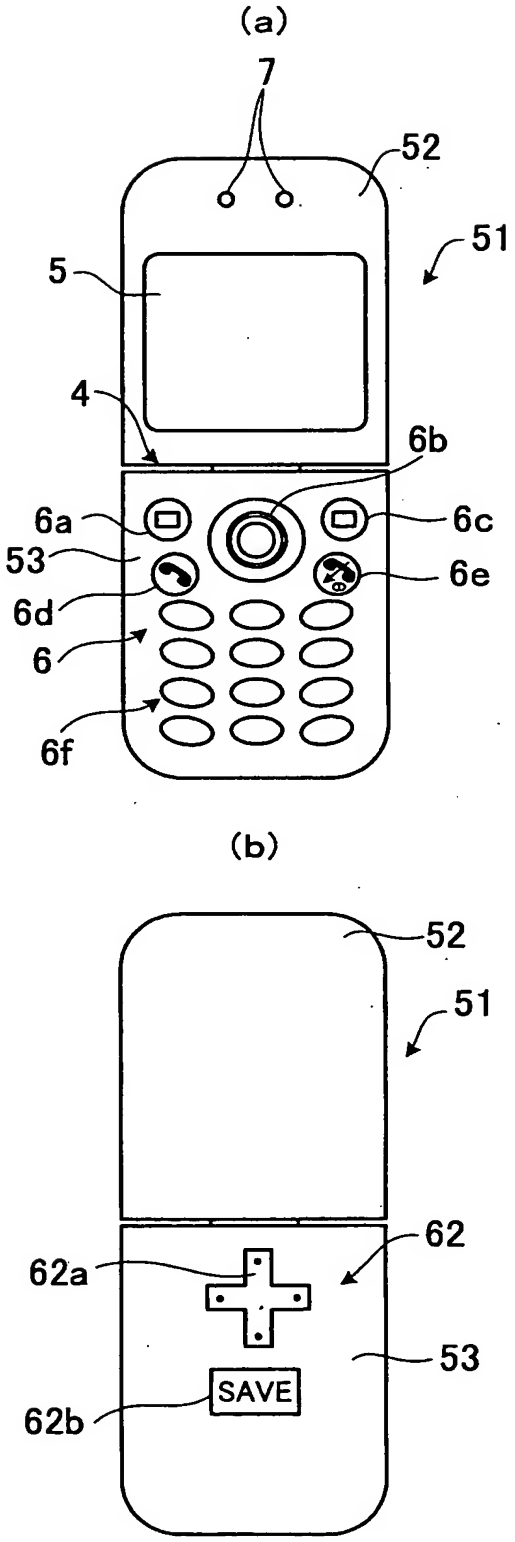


FIG.48

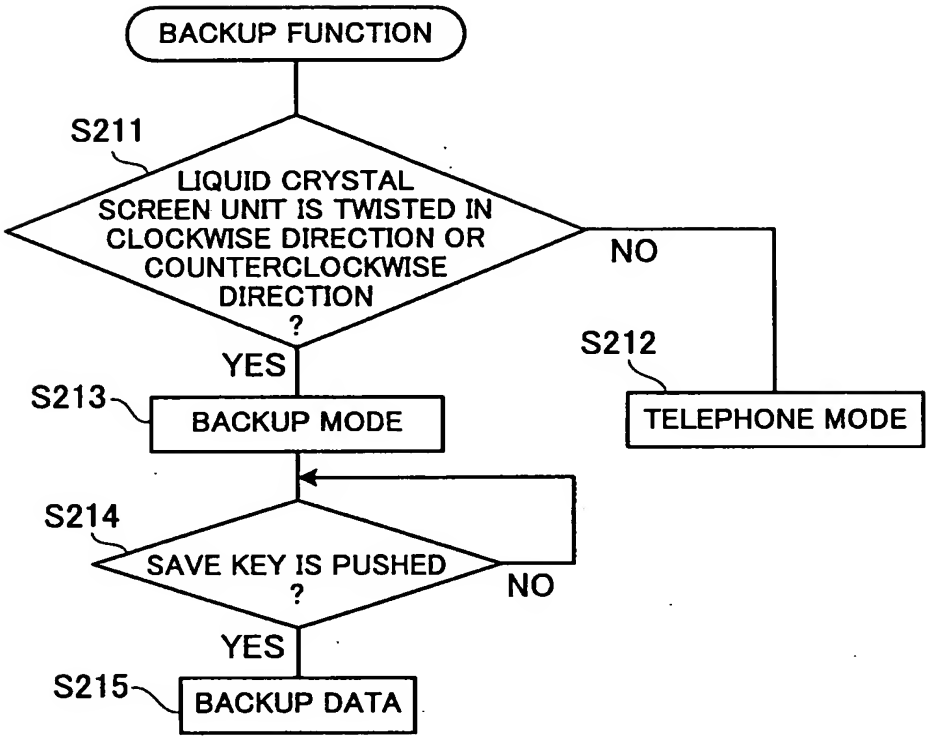
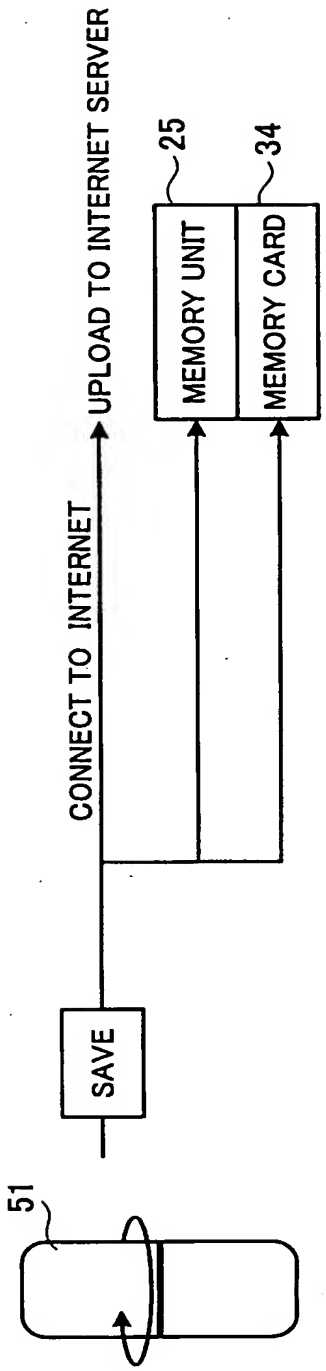

BACKUP FUNCTION
S211
LIQUID CRYSTAL SCREEN UNIT IS TWISTED IN CLOCKWISE DIRECTION OR COUNTERCLOCKWISE DIRECTION ?
NO
S212
TELEPHONE MODE
YES
S213
BACKUP MODE
S214
SAVE KEY IS PUSHED ?
NO
YES
S215
BACKUP DATA

FIG.49


51
SAVE
CONNECT TO INTERNET
UPLOAD TO INTERNET SERVER
25
MEMORY UNIT
34
MEMORY CARD